AMERICAN GAS ASSOCIATION MONTHLY

Vol. VIII No. 11

NOVEMBER, 1926

IN THIS ISSUE

Salient Sayings of Convention Speakers

Perfecting Service and Safety
By Geo. K. Burgess

Finance and Public Relations
By Channing H. Cox

Who Knows About Gas and Why Not?
By Joe Carmichael

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AMERICAN GAS ASSOCIATION MONTHLY

342 MADISON AVENUE, NEW YORK, N. Y.

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SUBSCRIPTION RATE *$3.00 PER YEAR*

For statements and opinions contained in papers and discussions appearing herein, the Association does not hold itself responsible.

Entered as Second Class Mail Matter at the Post Office at Brattleboro, Vermont, February 10th, 1922, under the Act of March 3, 1879.

Our Own Who's Who

XVIII
Preston S. Arkwright

BORN in Savannah, February 24, 1871. Prepared for college in the Savannah schools, and was graduated in law from the University of Georgia in 1891. Soon after graduation, began the practice of law in Atlanta. Entered public utility work in 1901, when he became vice-president of the Georgia Electric Light Company. In 1902, was elected president of the Georgia Railway and Electric Company, and when the Georgia Railway and Power Company was formed in 1912, absorbing the Georgia Railway and Electric Company and other utility companies, he was elected president of the new company, and has held that office ever since. Through the acquisition of control of a number of Georgia utilities by the Southeastern Power and Light Company during the present year, Mr. Arkwright is now president of companies which supply electric service to more than 150 Georgia cities and towns. Gas service is supplied in Atlanta, Macon and a number of other cities, and street railway service is supplied to the larger cities. He is vice-president of the Southern Gas Association and is second vice-president of the N. E. L. A.

AMERICAN GAS ASSOCIATION MONTHLY

Vol. VIII NOVEMBER, 1926 No. 11

Dedicated to Progress

The Eighth Annual Convention Will Long Be Remembered

NEVER before has an American Gas Association convention risen to such a high plane. Never before has the future been so truly and masterfully painted. Coincident with the attacking of the problems facing the industry was a feeling of nationalism that overrode the local viewpoints of companies and territories, resulting in a broad consideration of the future developments of the industry. Running through all the addresses and discussions was the expression of an abiding sense of the duties that must be undertaken in the dawning of a new era, an era in which the complete cooperation of all is needed if the gas industry is to play the part it should in America's business.

The close relationship that exists between the American Gas Association and the gas industry was predominant in every meeting, general or sectional. The interests of the industry are expanding more rapidly than ever before, and parallel to this growth of the industry is the expansion of the interests and influence of the American Gas Association. The order of the day is "bigger things in better ways."

This idea was especially evident in the exhibition. Never before has such a display been as large or as promising for the rendering of service to the American public. The approval seal of the Testing Laboratory, conspicuous in its first appearance at an A. G. A. convention, has assumed the guise of a guarantee of good service. Every one was strongly impressed with the seal and its meaning. Probably the most important step of the convention was the passing of the resolution that is given on this page.

With cooperation the universal byword of the industry, future developments will far outshadow the growth that has been made in the past.

RESOLUTIONS ADOPTED AT THE CONVENTION

WHEREAS the Association recognizes that our duty to the public we serve, as well as our own interest, demands undivided and wholehearted support of our Appliance Testing Laboratory and its program which has the full cooperation of the United States Bureaus of Standards and Mines and the Public Health Service, be it

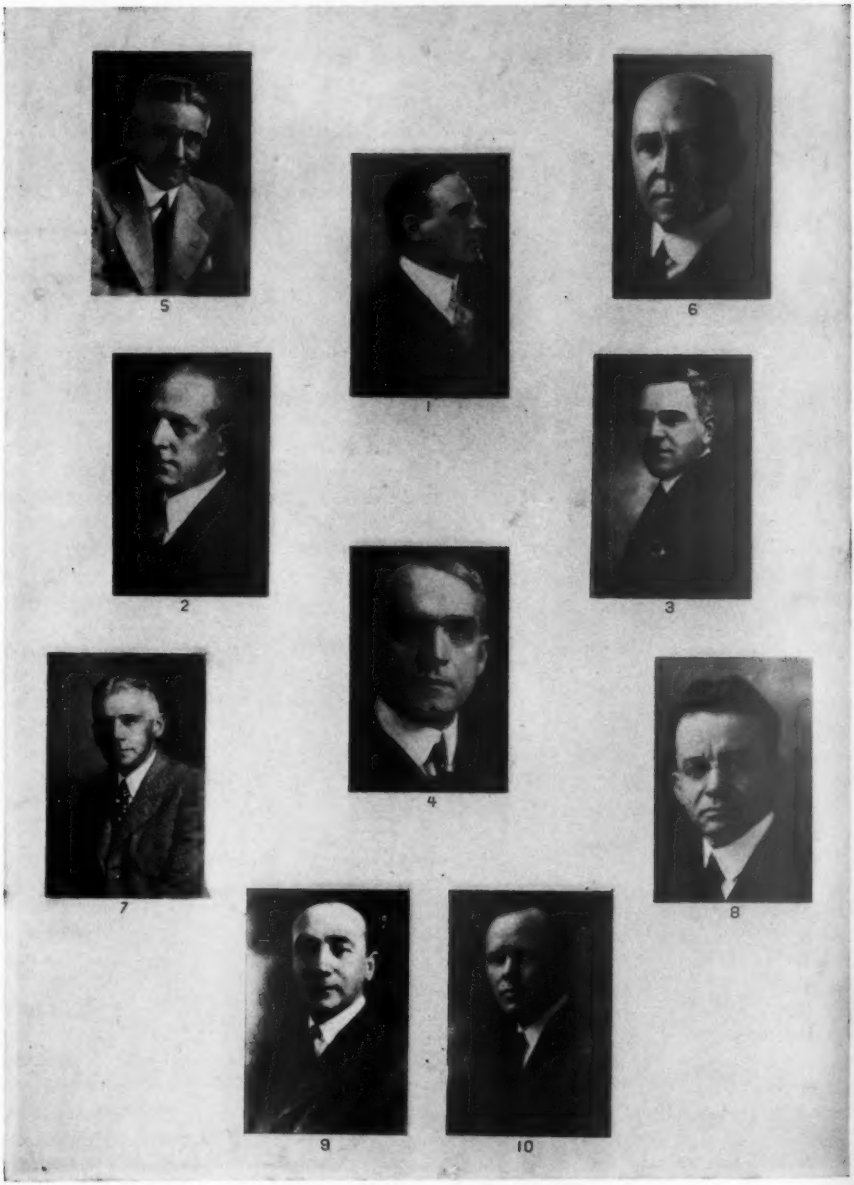
RESOLVED first, that it is the sense of the American Gas Association in convention assembled that no gas ranges or flexible gas tubing which do not bear the Laboratory seal of approval will be sold or offered for sale by any member gas company;

RESOLVED second, that since in the judgment of this Association it is essential that to make available to the American public at the earliest possible date a full quota of tested and approved appliances, every member gas company is requested to notify manufacturers of ranges and tubing of their adherence to the policy stated in these resolutions;

RESOLVED third, that it is detrimental to the best interests of the public and the gas industry that appliances or tubing not qualifying for American Gas Association standards be made or marketed, and we deplore and disapprove any such practice; and

RESOLVED fourth, that the Executive Board be requested to consider the adoption of a policy which will make the purpose of these resolutions effective both as to gas companies and manufacturers.

Officers Elected at Atlantic City



1: Alexander B. Macbeth, President. 2: Oscar H. Fogg, vice-president. 3: Clifford E. Paige, treasurer. 4: Philip H. Gadsden, director. 5: J. J. Burns, chairman, Commercial Section. 6: W. E. Steinwedell, chairman, Manufacturers Section. 7: Harlow C. Clark, chairman, Publicity and Advertising Section. 8: A. L. Tossell, chairman, Accounting Section. 9: Henry O. Loebell, chairman, Industrial Gas Section. 10: Walter C. Beckjord, chairman, Technical Section.

Salient Sayings of Convention Speakers

Interesting Paragraphs from Addresses and Reports Made at the Eighth Annual Convention

H. C. Abell, New York, N. Y.

AN industry can advance only in proportion as it seizes advantage from its opportunities and its possibilities. The gas business is well on its way—and advancing still. But in order to attain the quick-step of the recommendations of the Three- or Five-Year Program, it needs the immediate support of every company of every class, and of all their personnel. The program must be supported as a whole. For each recommendation is linked into the chain of the development contemplated by the plan.

It has been a great pleasure to assist actively in the gas industry's affairs during the past two years, as your president. The opportunities for development in gas appear to me better and greater than at any past period.

The privilege of sitting in many committee meetings, of reading all committee reports, of participating in conferences, has proved to me the earnest, faithful, and conscientious industry of the members of your sections and committees. That is your surest guarantee of organized prosperity.

Any industry enjoying the co-operative effort of all its members, with proper coordination of its interests and works, all pulling together for common purposes, under the direction of a council consisting of its leaders, supported by an interested and aggressive Executive Board, whose membership represents every line of endeavor in the business, further assisted by an efficient headquarters' organization diligently working as a unit, to push ahead a public necessity to its maximum economic utilization, is headed for an enviable goal.

That, to me is the gas industry. I feel that from the experience of the past two years of association and work with so many men and women giving their best for a cause that I should be a fair judge.

The example set by so many unselfish and efficient enthusiasts has been a great inspiration to me. Our continued pull together—which I believe becomes stronger each year—will advance the gas industry to an eminence on which it will be pointed out as an exemplification of the highest achievement in American business.

A. C. Fieldner, Pittsburgh, Pa.

MODERN investigators have laid the foundation of a new chemistry of coal. They have studied the origin and evolution of coal from the basis of the biochemistry of plants and the chemical changes involved in processes of fermentation and decay. American investigators, in particular White and Thiessen, have traced the original plant constituents through the successive geological stage in coal formation, as exemplified in the coals of different ranks from peat to anthracite. In England, Wheeler, Bone, and their co-workers are intensively engaged in separating individual constituents or similar groups of constituents in coal and comparing their properties with similar constituents of the plants of today. In Germany, Franz Fischer and associates of the Coal Research Institute of Mülheim-Ruhr, and Fritz Hofmann at the Upper Silesian Institute for Coal Research are vigorously attacking the problem of the constituents of bituminous and brown coal by chemical methods of extraction with solvents, reaction with various reagents, decomposition by heat and pressure, and correlation of these results with a study of the chemistry of the two principal plant constituents, lignin and cellulose.

These investigators, together with Parr

and his students in the United States, are the leaders of research on the constitution of coal which is furnishing information fundamental to many of the problems of carbonizing and processing coal. Complete knowledge on the constitution of coal will enable us to answer questions that have baffled the gas engineer for years, as for example: What are the agglutinating constituents responsible for coke formation and how determine them? How to blend different coals to make good coke? What is the best carbonizing schedule for a given coal or combination of coals? What is the influence of the carbonizing schedule on the gas and by-product yields? How to control spontaneous combustion? None of these questions have been definitely answered yet, but progress toward their solution is being made.

A. R. Keller, Syracuse, N. Y.

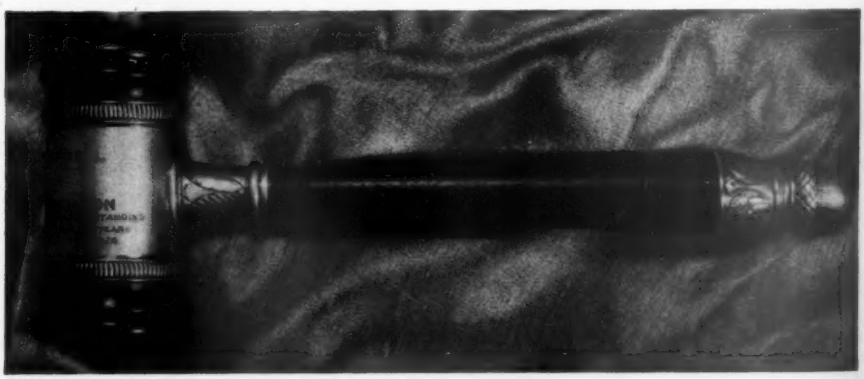
THE operation of our public utilities must not and cannot be measured solely by monetary gain. That priceless good will which is the true measure of success and upon which the future of our gas industry depends can only be acquired and perpetuated by exercising the qualities of fairness, honor, and integrity.

We must secure the good will of our customers by deserving it, by giving them prompt and efficient service and by advertising it, not only to the new customer but to the old customer as well. With this thought in mind let us, as an industry, impress the public with our willingness to serve it, for we would be helpless without our customers' trust and confidence.

Ada Bessie Swann, Newark, N. J.

RADIO broadcasting is such an interesting work, brings such a personal contact to the work, that the home service director doing that is inclined to become, perhaps too enthusiastic about it. Yet it does not seem possible that too much enthusiasm could be shown for any branch of work that has so thoroughly brought the work of the home service department of the utility company before its public and shown the kindly, friendly spirit that really exists within a utility company, yet is often doubted by the public.

Radio broadcasting has done so much for the department in the Public Service Electric and Gas Company in New Jersey, that I would like to urge its use by all utility companies where it is possible to use it, and where it can be used in a reasonable way.



Silver mounted gavel presented to Harry C. Abell by the American Gas Association at the termination of his two-year term as President of the Association. The inscription is: "Presented to Harry Clinton Abell by the Executive Board of the American Gas Association in token of his untiring labors and outstanding accomplishments as president for two years. Atlantic City, New Jersey, October 12, 1926."

Clifford E. Paige, Brooklyn, N. Y,

A GAS company's conception of service ideals has been expressed in deeds, rather than in words. We now realize that if our deeds are what they should be, we must use words to tell about them, especially if such practice will lead to increased sales. We are entitled to advertise our service if it is worthy. Confident in our conviction that there is none better, our industry is now conducting an advertising enterprise which will bring to every home and to every industry an acquaintance with the possibilities of gas as a fuel.

We have a growing appreciation of what industrial gas sales mean to the gas company. From the gas company management viewpoint, industrial business needs more experts. Young men with ambition and energy may embark on a professional career here, and not simply hold down a job. The prospect is alluring, both for the industrial gas salesman and for the gas company. In fact, to appreciate the magnitude of the field, it is only necessary to know that industrial gas sales have increased by 100 per cent in the last ten years. Success involves brains and work, because more and more, highly trained technique will be required as the business develops.

Gas company management must appreciate that industrial gas application must be developed by advertising. Advertising of industrial gas and industrial gas appliances in trade journals has shown results. Advertising industrial gas in local newspapers has a direct effect in interesting local industry, and a valuable indirect effect of keeping the public at large acquainted with the marvellous adaptability of this fuel.

David Lawrence, Washington, D. C.

FROM his own experience, the average man applied to any industry that served him much the same measure he did to his tailor, grocer, his car, or his radio. It might be expressed in the terms that quality plus cost equals satisfaction. Beyond the simple problem of satisfying a customer, however, lay the larger field of increasing the customer's need for the production. The client whose demand remained at a level always was a prospect for increased business and the problem of the gas man, like that of every other industry.

Where an accomplishment by any industry has real news value, it will find publication as news, but beware of striving for free publicity. At best it is sporadic and does not bring results.

If you want your public to award you fair measure your opportunity lies in constant and helpful personal contact with the consumer, and in the advertising field and both must be skillfully done. In neither is the casual effort productive.

B. J. Mullaney, Chicago, Ill.

THE American Gas Association's Committee on Education of Gas Company Employees finds that employee education is receiving a steadily increasing measure of attention from both large and small companies throughout the country. In consequence of this response to the efforts of the Committee, a definite national program on employee education is gradually but surely taking form within the industry.

Not many years ago, very few gas companies promoted other than spasmodic employee educational activities. Today a number of the larger companies have full time educational directors and many of the smaller companies have men as-

signed to educational work on a part time basis. The number of companies thus having systematic employee educational programs is increasing with results that are highly encouraging.

Educational activities, as now fostered by so many companies, include the formation of classes not only for teaching specialized duties to employees but for teaching the fundamentals of the gas business. The classes are usually conducted on the company premises with department heads and officials as the lecturers. Some companies hold the classes in local schools utilizing the teachers as instructors. Company libraries have been installed where books and periodicals are conveniently available to employees. Instruction offered by local evening schools has been advertised and employees encouraged to enroll, a number of the companies assisting in the payment of tuition fees.

F. F. Cauley, Chicago, Ill.

THE improvements made in industrial gas equipment during the past year have not only secured a large volume of new business, but have paved the way for greater accomplishments. These improvements seem to have been largely in the direct application of gas in conveying, rotary and other types of industrial gas furnaces covering many fields.

It has been extremely interesting to watch these improvements going on. Greater care has been given to insulation and general construction. The application of gas has been more carefully studied in relation to the material that is to be heated. Complete pyrometer and automatic controlling features have been employed, with the result that manufacturers having production operations, are installing gas equipment for many of their heating processes formerly done with other fuels.

There is another angle to the situation which is worthy of comment and that is, the change of attitude of a number of equipment manufacturers who heretofore have been building and selling heating equipment almost exclusively for oil or electricity. Within the past year they have turned their attention to building high grade gas equipment. This is partly due to the activities of a few gas companies who are pushing gas for industrial purposes and who have been instrumental in creating a demand for better gas equipment. Some of the progressive furnace manufacturers have been quick to recognize these activities and their engineering forces are now building modern and efficient gas burning equipment.

The need for improvement in the direction just outlined is most apparent.

The President's dinner, held during convention week

The Atlantic City Meeting of the Executive Board

The industrial gas business will not be on a firm foundation until the manufacturers of gas equipment have such a ready market for their goods that a reasonable profit will enable them to do the necessary research and development work now so much needed. The most logical means of producing a ready market for gas equipment is through the general adoption of scientifically constructed rate schedules which are low enough to meet competition of other fuels.

J. J. Morgan, New York, N. Y.

WOULD like to say a word about the men who are devoting their spare time to study in the attempt to make themselves more useful to their employers and to the gas industry in taking the Home Study Course on Manufactured Gas at Columbia University. The number who have done this has exceeded even the expectations of the most optimistic of those concerned with the establishment of the course. The quality of these men is also worthy of comment. They are the ambitious, alert, industrious younger members of the industry. An analysis of their educational qualifications shows that over 60 per cent of them are college men. They are the men from whom future executives will be drawn, and it is believed the zeal they have shown in their study argues well for the future of the industry.

Frank L. Blanchard, New York, N. Y.

THE manufactured gas industry was never financially in better condition than at present. Not only are its securities commanding the attention of conservative investors, but the sales of gas for both domestic and industrial heating purposes are making new high records. Public relations have never been better. There has been a noticeable lack of rate agitation and harmful publicity, and a very decided increase over previous years in the amount of favorable editorial comment appearing in the press.

These improvements, both within and without the industry, are due, we believe, to the cumulative effect of publicity plus good service rendered by the member companies of the association. The gas industry has reached the point where it not only renders high grade heat service, but steps out in the open and tells the world about it. Particularly is this true of the larger companies equipped with publicity departments directed by experienced newspaper and advertising men.

Last year the chairman of the Publicity and Advertising Section in his annual report pointed out the urgent need of a national advertising campaign, extending over a period of at least three years, to popularize the use of gas and make the industry, as a whole, better known to the American people. We believed then, as now, that if the public had a better understanding of the many ways in which gas could be economically employed in the home, the factory, and in office buildings, not only would the public be greatly benefited, but the companies engaged in supplying the service would have a largely increased income.

H. L. Whitelaw, New York, N. Y.

HOUSE heating is an entirely domestic field of utilization and is not purchased by consumers primarily on a basis of economy or profit, but is rather a matter of luxury or (more usually) of convenience and necessity.

For this reason we should not start out by considering other fuels and their prices as directly limiting our market for house heating. Gas as a fuel for heating houses can be well sold on its own distinct merits, without comparison to other fuels. We need not blind ourselves to other fuels, nor attempt to forget that they exist. Even admitting them as competitors, on a price basis, we have so great an advantage in the appeal of cleanliness and convenience that we need not let price competition worry us seriously.

When we add house insulation to house heating by gas, we then do have a real economic appeal to strengthen our already strong appeal; and perhaps it may be said that insulation widens our market. However, for all practical purposes within the range of our present selling abilities, we need not cut down our enthusiasm as to the extent of the prospective business on the ground of competitive fuel price.

If proper means are taken to place the subject of gas as a fuel in its right light, and in the class by itself to which it belongs, this will do more than any one thing to meet and overcome the competition from oil which no doubt is one of the principal sales resistances to a more rapid spread of the gas heating idea. Yet in one most important respect, oil heating is benefiting the gas heating idea because it has done so much to put over "automatic warmth."

The public has grasped the significance and value of automatic heat control, accepts it as one of the principal features of modern heating. Gas with its sensitiveness to regulation and simplicity of control lends itself to promotion on this score more forcibly than oil and thus the gas industry can plant a fertile seed in ground already prepared for it.

The fluctuating prices of other fuels, and the gradual upward trend which has occurred within the past few years (and which we believe will continue on an increasing scale) are bound to affect the scope of our market favorably. When we add to this the lack of control and the uncertainty of supply—which have been so recently demonstrated to consumers in the coal strike—we add one more "outer fringe" to the circle of our prospective market.

But even with our heartiest effort we shall be a long time reaching the outer fringes of our market based on the comfort and convenience appeal—and by that time the prices and supply of other fuels will have reached a point at which new territory is open to us without bidding against them on a strictly economic basis.

COPIES of the following industrial gas series booklets are still available, and may be had by writing to Association Headquarters:

House Heating,
Bakeries, Hotels and Restaurants,
Food Products,
Combustion (revised edition),
Industrial Data Sheets.

Alexander Forward, New York, N. Y.

A STUDY of the major items included in the statistics for 1925, when we had the largest business in our history, indicates some interesting trends. The total gas produced and purchased for distribution by the manufactured gas industry in 1925 amounted to 457,100,000,000 cubic feet, an increase of approximately 16 billion feet over the year 1924.

Larger purchases of coke oven and natural gas are reflected in lesser increase in the use of solid fuel and gas oil by our industry. The 1925 statistics indicate a relatively greater use of coke and a decreasing use of anthracite. The gas oil used reported amounts to some 35,000,000 gallons less than that reported for 1924. Uncertainty as to the future supply and price of gas oil should tend to accelerate the reduction in its use in the future.

Many of our people believe that coal gas will eventually supplant carburetted water gas as a major factor in the country's gas production. Heretofore the figures have not borne out this prediction, except in the rapid increase in the amount of by-product coke oven gas distributed. However, in 1925 for the first time there was recorded a slight reduction (5 billion cubic feet) in the amount of carburetted water gas produced. The production of coal gas increased 3,498,000,000 cubic feet and oil gas production increased 1,234,000,000 cubic feet. Even with this reduction, however, carburetted water gas for 1925 still represents more than 71 per cent of the total gas actually produced (as against 74 per cent in 1923 as stated in my 1924 report), and 51 per cent of all kinds of gas produced and purchased by the industry.

In 1925 403,800 new customers were connected to our mains; 6,000 additional miles of main were laid and 425,000 additional meters connected.

Reports reaching headquarters from all parts of the country indicate that 1926 will be a banner year in increased output.

C. O. Frary, Chicago, Ill.

WHEN a satisfactory gas house-heating salesman has been developed, every possible inducement should be offered to hold him as he is a rare article and it is very expensive to train new men. By all means, when a gas company has a good gas heating salesman they should pay him well rather than lose his services. Many companies have lost good men simply on account of their salary scale.

The steamfitters, architects and consulting engineers are very valuable assets to gas companies selling gas house heating. Every effort should be made to get and hold their good-will. Properly handled, these sources produce a nice volume of business with a minimum of effort.

Gas house heating is only in its infancy and great care should be taken not to oversell any prospect by use of high pressure salesmanship or exaggeration of heating costs. Every satisfied customer is a wonderful asset but one dissatisfied user, made so by poor salesmanship, will do an inestimable amount of harm.

Philip Cabot, Cambridge, Mass.

BEARING in mind that the purpose of rate making in the domestic gas field is to sell services and goods, that separate prices must be made for each, and that the value to the customer is the most important factor in price fixing in a competitive market, I suggest that you should approach the making of a service charge like a landlord leasing an apartment. The gas company is in fact leasing a part of its property to each customer when it makes a contract to furnish him service; the gas commodity is quite another matter. Like the owner of real estate, the gas company must lease what the customer

DEPARTMENT OF COMMERCE
OFFICE OF THE SECRETARY
WASHINGTON

September 25, 1926

Mr. H. C. Abell, Pres.,
American Gas Association
342 Madison Avenue
New York City

My dear Mr. Abell:

I wish you would extend to the Convention of the American Gas Association my greetings and best wishes for a most successful meeting.

The many activities of the Association looking toward greater stability of the industry, the elimination of waste and improvements in its methods and processes certainly commend it as one of the outstanding efforts of American industry. I am particularly interested in the results achieved in the direction of standardization. The cooperation between your association and this Department through the Bureaus of Standards and Mines and other branches of the Department, has been a relationship of constant productive results and great personal satisfaction to me. It represents not only that fine cooperation which can be brought about within an industry through such an association as yours, but also the cooperation which can be brought about by the government with industry in a spirit of helpfulness rather than a spirit of destruction.

Wishing for you the greatest sphere of usefulness in an expanding industry, I am

Yours faithfully

Herbert Hoover

Herbert Hoover, Secretary of Commerce, Sends a Message of Welcome.

wants to hire, but there is no more reason for abating his rent when the thing is not used than for a landlord to do the same when his tenant goes to Florida. If the tenant wants a home, he must pay his rent, and if a gas customer wants a gas service, he must do the same. He is accustomed to this in all other business relations and he does not object. If his gas rate is properly explained to him, he will pay it.

The flat rate under which he pays nothing for the service would seem ridiculous to him if he understood it. Suppose, for example, that instead of going to his haberdasher to buy his collars he should ask the tradesman to bring him a collar at seven every morning on the understanding that if he wanted a collar, he would pay the retail price for it but if not, the dealer could take it home. The proposal is ludicrous but it is just what he is asking the gas company to do in providing him with a meter, service and system of gas mains without charge unless he uses gas.

Now is the time to make this change in rates. Further delay is dangerous. We are in a cycle of high prices and unexampled general prosperity which can not last forever, and which will be followed by a cycle of falling prices and unemployment. When that time comes your customers (two-thirds of whom pay less than cost) will expect gas prices to fall with other prices. This demand will be hard to resist and may prove a new and serious obstacle in the path of progress. "The present moment is the life of man"; it is also the life of trade.

S. E. Skelley, Portland, Ore.

TRUE to that inexorable law that there can be no benefit without an offsetting loss, obligation, or disadvantage, customer ownership is not a bountiful cornucopia lavishing its blessings upon the company, customer, and community alike without an offsetting of greater obligations. Seeking wide distribution, we have appealed particularly for subscribers among the smaller investors. We have sought to sell many a few shares rather than a few many shares. In doing so, we have brought within the circle of our corporate family scores of not only small but also inexperienced investors. In many instances have such people "entrusted to our keeping," as they would say, the savings of years, possibly of a lifetime.

Having sought such "co-partners" in the enterprise, we can neither deny nor dodge obligations which we need not have recognized had our funds been raised among seasoned, experienced investors. Added to the increased responsibility to carefully manage that dividends may be paid and principal amply protected, comes a still wider responsibility which we must accept, although perhaps not so obviously, of a relationship akin to that of the banker or investment banker towards his client. We cannot turn a deaf ear to those of our customer-stockholders who, when they wish to diversify their investments or, for other reason, come to us for information and advice concerning

other investments. We need not actually advise such persons in the sense of recommending a specific security, but we must be able and willing to give them proper guidance. We have a still further obligation to protect our stockholders so far as possible against the unscrupulous stock salesman who, ever present, offers the holders of seasoned investments green but tempting issues of mushroom growth.

H. D. Valentine, Poughkeepsie, N. Y.

THE washing machine and the refrigerating machine are mechanical appliances operating in the home under conditions not met with in commercial practice. Each had reached a stage of considerable development and degree of efficiency commercially before their use in the home was considered, and the first attempts in each case were to scale down the commercial machine to the household size. The washing machine industry has had thirty or forty years of experience and has learned that the peculiar conditions of household operation of any mechanical appliance require a simple and logical design based entirely upon the housewife's conception of desirability.

The features of mechanical refrigerating units,—either gas powered, or electrically powered,—which appeal to the housewife as "desirable" may not be clearly defined today, but it is certain that her ideas of desirability will eventually sway the market in the face of the refrigerating engineer's ideas of efficiency.

It may be that her favors will be bestowed upon the present type of electrically driven vapor compression machines for still many years, or a gas operated absorption type may usurp the center of the field, and yet the cachet may rest upon some "entirely different" unit.

R. J. Canniff, Chicago, Ill.

WITH the growing necessity for greater emphasis on selling and marketing the commercial man must assume his rightful place in the business of the country, particularly so in the utility field, for we are today passing through a transition period in American business, and a new science is being created. It is the science of commercial engineering or marketing, which embraces the art of salesmanship.

Obviously, the home is our immediate market for domestic gas and appliances—and the women in the homes are the buyers. If you study the present trend of home life of the average American family, one can readily note a decided change in the last few years. Today the habits of the women in the home are changing. Many influences are at work in bringing about this change, many of which are beneficial to the gas business and many of which are the hardest kind of competition for our business; and, as yet, we have not created a merchandising plan to meet this new competition.

The great objective and feature which we know must come and the one way to reach the desired objective is through a forceful program of national advertising, intelligently developed and so presented to the public that it will create that appreciation for and acceptance of the comfort, convenience, happiness and pleasure in the home that all housewives are in search of today. It is not enough to give them the usual line of glittering generalities and the humanitarian point of view of the local gas company, for at some points this might be a debatable question; but show them the utility of a safe and efficient gas appliance that will make home work easier and more inter-

(Continued on page 662)

EDITORIAL

By ALEXANDER FORWARD
Managing Director

"The tumult and the shouting dies
The captains and the kings depart"

We Are On the Way

RETROSPECTIVELY, in the comparative quietude of one's office, what seems the outstanding fact of the Eighth Annual Convention of the American Gas Association?

Not the record-breaking attendance, gratifying as it was; not the wonderful exhibition of machinery and appliances, testifying at once to the prosperity and progressiveness of the gas industry and the enterprise of its manufacturers; not the high quality of the program nor the excellence of the entertainment nor the usual lovely weather; not the kind and generous words of commendation one heard on all sides.

Rather, it is what brought about all these things. It is the manifest confidence of the industry in its destiny in the public service, and complete acceptance and approval of the successive steps taken during the past year by our leaders looking to a comprehensive program of activities during the immediate years ahead. This spirit ran through every general and sectional meeting. It was expressed by J. B. J. Mullaney in his closing remarks at the last general session.

"It seems to me," he said, "that this week has been a demonstration of this new grip which the gas industry has got upon itself and upon its opportunities and its possibilities and the ways and means of realizing them. To put it in the language of the street, it seems to me this week has reflected that 'We know where we are at. We are on our way. We know where we are going.' There is no longer any doubt about it. The word is 'Let's go.'"

Those Who Serve

JUST as the award of the meritorious service and life-saving medals is the most dramatic point of the convention, so is it the briefest and most pointed summary of the service gas companies give. Dedicated to serve all the people all the time, the gas industry finds that the reward of those in the ranks who have given super-service is a simple gesture, but one potent in meaning.

The story of the deeds of these heroes is the story of gas service—the fires that never go out. From all walks of life, the performers of service in the line of duty, these men are representative of our place in civilization.

The industry is doubly benefited. It has men the calibre of heroes. It rewards them with a simple, sincere ceremony.

Finance and Public Relations

Development of Good Will Partly Responsible for Greatly Enhanced Financial Position of the Industry

By CHANNING H. COX

Vice-President, First National Bank of Boston; Ex-Governor of Massachusetts

THE financing of gas utilities presents in general no problems differing radically from those to be found in other types of public service corporations. Indeed in many cases we find operating companies doing a combined electric light and power and gas business, or a holding company controlling subsidiaries engaged in different branches of the industry and often doing part or all of the financing required by these units.

Channing H. Cox ©U. & U.

The exact form or method by which funds shall be raised depends obviously on a number of factors; as, for example, the general business situation, the condition of the money market, and the financial position of the company requiring funds. It is, however, axiomatic that the utility company in normal times with its slower capital turnover and its greater stability of income may more safely and with less expense rely to a greater extent on bonds than can the industrial corporation. On the other hand, the industrial concern, because of its greater freedom from regulation and consequent chance for higher earnings, may finance more easily through the reinvestment of surplus income into the business. Unfortunately, American financial history has too often recorded cases where both forms of enterprise have through necessity or for less excusable reasons relied too heavily on their borrowing power with disastrous consequences. A much more sound financial policy to be followed by utility corporations is that announced not long ago by one of our country's largest gas and electric companies—to finance their future requirements 50 per cent by bonds, 25 per cent by preferred stock, and 25 per cent by common stock.

Conditions are not always, however, such as to permit even the best-managed corporations to preserve at all times a well balanced capital structure. Obligations may mature and expansion become necessary at periods when long term bonds can be floated, if at all, only at extremely disadvantageous rates, or when the company's stock cannot be marketed. At such times, corporations would better issue short time notes or bonds on the best terms possible in the hope that at or before their maturity they can be refunded by stock or bonds under more favorable conditions. The "discovery" of the so-called open-end mortgage has simplified to a great extent the financial problems of many utility corporations. Under the old system, a first mortgage issue at a low coupon rate may have been brought out with a limited amount of bonds authorized. When the authorized amount of bonds had been issued, the company was often forced to sell second

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mortgage bonds at a high rate of interest, particularly when the first mortgage covered all property owned by the company or to be acquired by it in the future. The open-end mortgage obviates this difficulty by providing for an unlimited number of bonds of different series, varying maturities, and varying interest rates, such bonds to be brought out only for, say, 75 per cent of the cost of additions or for refunding purposes, and then only when net earnings are for twelve months preceding any issue twice interest charges on the funded debt including the bonds which it is proposed to issue. Under the open-end mortgage, when interest rates are high, short term bonds or bonds with a redemption feature may be issued, later to be refunded by sale of stock or lower coupon rate bonds when conditions in the money market appear to be more propitious.

Some gas companies maintain a stronger cash position than is usually deemed necessary for public utility companies in order to be able to finance themselves when interest rates are temporarily high or to take advantage of low prices for quantity lots of materials and supplies whenever opportunity affords.

Many companies have found a source of capital supply among customers and employees, very often through the sale of preferred stock. Frequently this step has been taken not because the company found it impossible to secure funds in the usual manner but from a desire to foster good will with these interested parties. Obviously this method of financing should be employed only when the form of security is at least reasonably safe and the company can be reasonably certain of paying dividends in foul weather as well as in fair. Otherwise, instead of good will, an active and most damaging ill will is sure to be engendered. Rightly employed, this method provides a satisfactory cushion for future bond issues.

A review of gas company financing in the past few years reveals a varying degree of success on the part of these corporations in dealing with their financial problems. During the war a combination of unfavorable factors brought about one of the most serious situations which these companies have ever been forced to face. The high cost of coal and other materials, the difficulty of securing relief in the way of increased rates for the service rendered, and the high going rates for money all militated against the industry. Under the circumstances, it is not surprising to find that Moody's table of average prices for gas company bonds shows a decline from 101.14 in 1916 to a low of 75.81 in 1920. One of the largest of the companies found it necessary in 1920 to issue notes at seven per cent and eight per cent and even then could market them only by depositing as additional security the most valuable collateral upon which it could lay its hands. Naturally, financing by stock was then out of the question.

Progress since that time, though uneven, has been marked. The company just referred to has been able to retire the high coupon obligations issued in 1920 by stock and to finance an expansion program by a long term issue at an extremely low rate. This accomplishment has, of course, been made possible by more equitable rates, lower cost of fuel, and a more favorable money market. Other companies are still hampered by a top-heavy financial structure due in many cases to the failure of public service commissions to grant reasonable rates.

At the present time, where the essentials outlined above have been secured, it should be simple for a gas company to obtain needed funds on advantageous terms and this statement should prove true of the small as well as the large company. The First National Corporation, connected with my own bank recently sold the obligations of a small gas company serving a section of suburban Boston at a price to yield less than five per cent. I doubt very much whether it would have been possible, even if it had been advisable, for an industrial concern of similar size to have secured funds in this manner. In this case however, with steady

and favorable earnings and the supervision of a public service commission which has consistently allowed a reasonable return on the investment, it was possible for a responsible financial institution to offer these notes to its customers as high grade obligations. The difficulty of one of the largest companies in securing capital in 1920, contrasted with the ease of a small company in securing funds this year, shows the greatly enhanced position of gas companies today.

With the industry apparently on the eve of further important developments in all fields of utilization, more and more capital will undoubtedly be required. There should be no difficulty in obtaining these funds; bankers and investors alike will, in fact, welcome the opportunity to participate in so sound an industry, provided only that the essentials of wise financial management are observed.

PUBLIC RELATIONS

Any commercial enterprise which offers commodities for sale must cultivate the good will of those it seeks as patrons. The public trades at stores where all things considered it feels it is given the fairest treatment. The American people are willing to be led, but they do not like to be driven. A public utility usually has a monopoly of the service which it renders to a particular community. The service rendered is one that is essential to the welfare and comfort of most of the residents of that community, and they are forced to purchase their light, heat, communication, and transportation from the one company that serves them in that field. But no matter how assiduously the company may try to avoid misunderstandings and to deal fairly, its consumers, nevertheless, feel that they have little freedom of choice, and the officials of even the best conducted public utility frequently find that over night a storm of criticism has broken on their heads which they in no wise foresaw.

Fortunately the officials of most public utilities fully appreciate this situation, and have striven hard and successfully to establish and maintain proper relations with the public. In my own experience, I have seen great changes in the manner of seeking or opposing legislation affecting public utility companies. Not so many years ago, if a strike measure were aimed at a public service company, lawyers would be employed to appear before legislative committees, and legislative agents would be hired to work with individual legislators. Now when a company seeks a proper privilege, some responsible official usually goes before the tribunal, and he is not afraid to state what his company seeks, and gives ample reasons why his plea should be granted. It was long considered good political capital to assail public service companies. I remember the incident of an able lawyer who was nominated for the legislature. He had honorably served a gas company as an attorney. All his opponent had to do in the campaign was to mail a circular to the constituency, which read substantially as follows:—"My opponent is attorney for the gas company. On election morning all the officers of the gas company will come out early and vote for him. Would it not be a good plan for the consumers to come out that morning and vote for me? I promise to oppose everything the gas company wants."

INTELLIGENT PUBLICITY

These baiters of honestly conducted corporations went too far. They injured the service and they made it impossible to attract new capital to supply improvements and extensions to plant and equipment. Companies conducted intelligent publicity campaigns and the people became suspicious of the agitator who protested too much. People are becoming more accustomed to public service companies. More and more they are acquiring securities of such companies, or perhaps the savings bank where they deposit, or the company in which they are insured, or their fraternal organization may carry such investments. They realize that the laborer is worthy of his hire, and that the public utility which is rendering honest

and useful service is entitled to a fair return of its capital outlay.

Recently I followed a rate case which was of the greatest interest to a large section of the public. A utility company was seeking an increase in rates. The public was immediately aroused. As the hearings progressed, the president of the company took the stand and in several days of examination and cross examination he showed such a grasp of the affairs of his company, and stated his case so convincingly, that the public began to think, became impressed with the fact that there were two sides to the question, and it became possible to have a fair consideration of the case free from prejudice and hostility.

The people are coming to see that the fixing of rates is a matter that requires the study of trained men who will sit as judges without the thought of political consequences and they realize that legislatures are not the proper tribunals to deal with such intricate questions. As a whole, the members of our public utility commissions are men of character and capacity. They are developing a body of sound precedents. They are trying to do right by the public and by the companies under their supervision. Our courts have shown their power to prevent confiscation of property. It should not be forgotten, however, that the men who sit on our commissions and the judges who sit in our courts are merely human beings. Cases could be multiplied where even our courts of highest authority have rendered different decisions under similar states of facts. They have apparently modified their views in response to clearly defined intelligent public opinion. If our courts are responsive to right public sentiment, how natural to find that members of public commissions, state and municipal officials, unconsciously perhaps weighing political consequences, should strive to please the public.

Since gas companies are so dependent upon a supporting public sentiment, how can this be best secured. You, who are in the business, know better than anyone. To an outsider it would seem that the utmost care should be used in all the points of contact with the public. The higher executives must know their business and they must stand ready to meet public officials directly. They must not attempt long range communication through intermediaries. It is of no less importance that all along the line from president to office boy there be a spirit of service, an evidence of desire to win approbation. The meter readers going to homes twelve times a year, the persons who receive applications, the tellers at the cashier's windows, the men who install new apparatus, the bill collectors and those who receive complaints—all of these employees represent the company in its contacts with the public, and they have vast power to make a friendly or a hostile atmosphere.

The public soon comes to know whether a large institution is sincere or not in its professions that it strives to give the largest measure of service possible.

In the treatment of its own employees, a gas company, as in fact any other company, has an opportunity to demonstrate whether it is "soulless" or whether it is an aggregation of human beings who derive joy and satisfaction in the doing of daily work, and who are bound together in a spirit of co-operation.

Employment in a public utility may present an ideal of service that is most appealing. America's public utility companies are fighting a never ending war against fire, flood, and storm to maintain continuous service. Somewhere brave men are on guard who know that no excuse can be accepted, but that the service must go on. Can there be finer incentive to high endeavor than was recently presented to the employees of the public service companies of Miami? Who would not have liked a part in restoring gas mains so that the people of that stricken city could be fed, or restoring electric or power service so that the community could be lighted and its industry revived, or to

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A Deed Well Done

1925 American Gas Association Meritorious Service Medal Awarded to Henry F. Ketz of Southern Counties Gas Company

Henry F. Ketz and the A. G. A. Meritorious Service Medal

IN recognition of prompt, meritorious, and outstanding intelligence and bravery in the saving of life and property in the Santa Barbara earthquake, Henry F. Ketz, of the Southern Counties Gas Company, of Los Angeles, Calif., was awarded the American Gas Association Meritorious Service Medal by President Harry C. Abell at the second general session of the Annual Convention on October 13.

The presentation of the medal, the highest mark of recognition for service that the gas industry can give, was one of the outstanding features of the convention. The drama of the award brought the Convention to its feet, as it gave visible showing of its appreciation of a deed well done.

Ketz, plant engineer at Santa Barbara, was performing his duty. Called upon to think and act quickly, he did what a great many others might have done, but what a great many others would not have been able to do. His act, possibly lacking the cinema-like thrill of dragon-fighting, is all the more worthy of recognition, as it was a flawless example of complete coordination between mind and body. Ketz knew what to do and how to do it; he did it. The result was the brief presentation of the medal—the lusty and sincere praise of the convention—and a return to duty.

The entire audience of gas men sensed the fact that Ketz was the personification of service—his act was tantamount to a declaration that the manufactured gas industry is concerned with the safety of its customers, as well as the convenience of the service it renders. Ketz, standing on the platform, had one greater,

Ketz in his working clothes

deeper quality than that of pride and scorning danger—the quality of good service, that the "Gas House Terrier" recognized in the colorful expression "Keep the holder up."

The following is a brief resumé of Ketz's act:

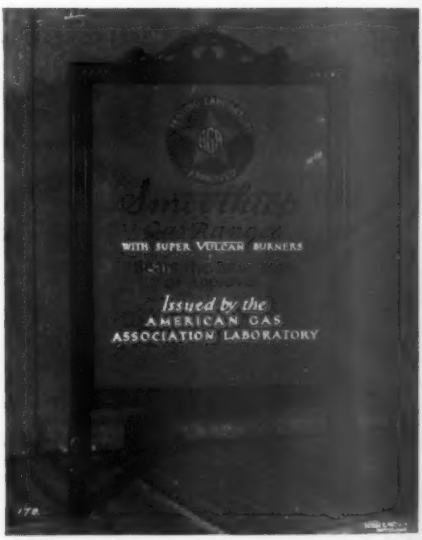
On the morning of June 29th, 1925, a severe earthquake rocked the city of Santa Barbara, Calif., which is served by the Southern Counties Gas Company, Los Angeles, Calif. At the time of the earthquake, 6:45 A. M., the Santa Barbara Gas Plant, where natural gas is reformed and mixed for distribution in the city, had started operation for the day and was in charge of plant engineer Henry F. Ketz. Immediately after the heaviest shake and while minor shakes were still continuing, Ketz noticed that the differential hand on the orifice meter, measuring the gas sent out to the city, had gone off the edge of the chart, indicating an instantaneous and tremendous increase in the rate of flow.

With most commendable and clear-headed thoughtfulness, he realized that this increase in flow must be due to breaks in the mains, so he immediately shut off the main valve on the pipe line leading into the city. Gas was thus shut off two or three minutes after the earthquake.

It seems certain that this intelligent action on the part of Ketz saved the city of Santa Barbara from a disastrous fire, as the water pressure in the mains was very low for several hours after the quake, due to a break in the feed line. A serious conflagration would have resulted if a fire had been started.

Ketz's devotion to duty in this emergency was rewarded by the officials of the company who presented him with an engraved watch and chain. Both the Southern Counties Gas Company and Ketz were highly commended by city officials and residents of Santa Barbara for Ketz's thoughtfulness and courage in such a trying time when the law of self-preservation prompted everyone to flee into the open.

Capitalizing the A. G. A. Testing Laboratory



A window card that uses the Testing Laboratory argument to selling advantage

Printed Papers and Reports Available

List of Convention Material That Can Be Supplied to Members On Request at the Present Time

THE following is a complete list of the printed reports and papers that are now available. A. G. A. members can be supplied with copies on request.

The proceedings of the convention will be published during the winter and will contain all the happenings of the convention.

GENERAL SESSIONS PAPERS

Annual Report of Accident Prevention Committee
Bibliography of Rates for Public Utilities (1876-1925)
Co-operation with Educational Institutions
Education of Gas Company Employees
Rate Fundamentals
Rate Structure
Report of the Committee on Customer Ownership
Report of the Managing Committee of the A. G. A. Testing Laboratory

TECHNICAL SECTION PAPERS

Carbonization Committee Report
Carbonization Committee Report—Appendix 1
Carbonization Committee Report—Appendix 2
Dehydration of Manufactured Gas
Recent Progress in Science in Relation to Gas Industry
Report of Water Gas Committtee

ACCOUNTING SECTION PAPERS

Cost of Operating Motors and Mechanical Equipment in Distribution Work
Customers Accounting System, Consolidated Gas Company of New York
Gas Company Audits and Auditing Insurance
Report of the Committee on Relations with Customers
Report of the Committee on Statistics and Cost Accounting
Store Room Accounting and Inventory Taking Report

COMMERCIAL SECTION PAPERS

Architects and Builders Service
Home Service
Report of the Committee on Incineration by Gas
Report on Refrigeration Committee
Selling Gas for House Heating
Window Display

INDUSTRIAL GAS SECTION PAPER

Industrial Gas Survey

Dr. Humphreys to Quit Stevens Tech

DR. ALEXANDER C. HUMPHREYS, for nearly twenty-five years President of the Stevens Institute of Technology at Hoboken, N. J., offered his resignation recently at a meeting of the Board of Trustees. Dr. Humphreys acceded to the request of the board that he continue in office until the completion of his twenty-fifth year, on June 5, 1927.

In his letter of resignation, Dr. Humphreys said that he had contemplated resigning for some time, and that as he had passed his seventy-fifth year he felt the time was opportune for him to do so.

Dr. Humphreys, second President of Stevens Institute, was born in Edinburgh, Scotland, March 30, 1851. He came to the United States in 1859. After a start in a Boston insurance office he entered the Guaranty and Indemnity Company of New York in 1866. His next posts were as secretary and, shortly afterward, superintendent of the Bayonne and Greenville Gas Light Company. For further training he became a student at Stevens Institute in 1877 and was graduated in 1881.

Then followed a professional career in which he was connected with the Pintsch Lighting Company of New York, the United Gas Improvement Company, of which he was general superintendent; the Welsbach Incandescent Gas Company and the firm of Humphreys & Glasgow, engineers, London and New York. In his professional career he was chief executive officer of more than fifty gas and electric light companies. His contributions to engineering literature have been numerous.

Salient Sayings

(Continued from page 653)

esting and still be economical, and you will find that such national advertising can be followed up in a practical way and increased sales in equipment and domestic sales will result and only if it is done in such a manner. This is the big opporunity we have all been looking for; and it points to the solution of the problem of increased sales at lower sales cost to the individual companies.

C. S. Reed, New York, N. Y.

IN going after new business we often find competitive conditions are such that we have to cut rates. This cutting of rates often loses as much net revenue from our present customers as we gain by the new business and therefore we are no better off than before. One possible solution for this is class rates and plenty of them. The manager of a combination gas and electric company thinks nothing of having twenty or thirty electrical rates while his gas schedule has only one or two pages. Incidentally, sometimes the net earnings of his two departments are in the same ratio. We should have more gas rates. We are justified in selling gas to present customers at $1.00 a thousand and at the same time offering to sell to new customers or for new purposes, gas at 50 cents a thousand. Any rate which will pay the additional operating costs and overhead plus some small contribution toward the support of the common overhead—our roof of net earnings—can be justified not only from the standpoint of the company but from the standpoint of the customers who are paying the higher price. The only things that we have to keep in mind are the ultimate possibilities of such a rate and the chance of offering different rates to two customers who are in the same line of business and competing with each other. If you have a roof that is in danger of falling and you have a shifty subsoil on which to brace it, you are justified in building only as heavy a foundation for your new wall as the soil will bear. Similarly, in building a gas rate for new business you are justified in asking for only enough revenue foundation to support the added wall of operating expenses, plus its own special overhead plus whatever share of additional net earnings or roof that the subsoil of competition will permit. If 80 cents will more than cover the added cost and overhead of house heating load, we are justified in making a rate which will average that amount, even though our lowest industrial rate averages 90 cents or more.

In conclusion let me urge the introduction of more rates based not only on cost analysis but also upon what the traffic can most easily bear, rates which provide foundations ample enough to carry their walls and as much of the roof of net earnings as the subsoil of competition will permit. At the same time, we should not neglect our present structure lest the main supporting foundations be undermined and lost. It is not the big customer that requires the most attention for he is in a position to demand and get all he needs. It is the customer using from two to ten thousand cubic feet of gas each month that is entitled to prompt relief and the only way we can give it to him is by means of equitable rates.

L. E. Lindsay, Chicago, Ill.

WE are all witnesses to the receptive attitude of the buying public. Indeed, there are times when we are a bit startled at the readiness with which a new service becomes a habit with us, until we are sold on something better.

The people who buy the comforts and the conveniences of today or who invest their savings in sound dividend paying stocks are walking about the streets looking for such ideas. They are down on the street in front of our places of business NOW. As live, thrifty merchants we should have our windows open and be telling the world what we have to sell through our display advertising.

Perfecting Service and Safety

A Summary of What Has Been Done by the Industry and an Outline of What There Remains to be Done

By GEORGE K. BURGESS
Director, Bureau of Standards, Washington, D. C.

THE methods of producing, distributing, and using gas are constantly being improved, but even with present methods it would seem possible to supply all the fuel needs of a city with gas and its by-products at a saving over the total cost of present fuels if we could provide the complete manufacturing and distributing plant at one time and subsequently operate it as a chemical industry, scientifically controlled for the highest efficiency, and utilizing each possible product to the best advantage.

There are great difficulties in the way of reaching this goal. The greatest market for gas apparently cannot be developed at present prices for potential heat. Rates apparently cannot be lowered materially until a greater market is developed. Great plants cannot be built unless the demands for their product will justify their cost. But such plants cannot be constructed economically a little at a time while the demand is growing.

Without attempting to offer a way out of these difficulties, it may be pointed out that the situation is not greatly different from that existing in 1802 when Murdoch first demonstrated the possibilities of gas lighting. It required vision and courage then to build a manufacturing plant and lay pipe under the city streets to supply this unknown and almost mysterious fuel to people who did not want it. It requires vision and courage now if the industry is to realize the possibilities suggested when it calls gas "the fuel of the future."

That such courage is not lacking in the industry is shown by many recent developments. It was shown by the first gas company which, without being forced to do so by a regulatory body or by changes in service conditions, made a systematic inspection and adjustment of all its customers' appliances to improve the service which they rendered. It was shown by a company which is said to have laid throughout the territory which it serves, mains of four times the capacity needed for the present demand. It was shown by every company which has voluntarily reduced the price at which gas is sold. It has been shown especially in the recent establishment of an appliance-testing laboratory and in the inauguration by the association of an extensive program of research and development for the purpose of perfecting service and safety.

Many of the men in the industry have worried about the future. They find themselves fighting close competition from electricity on the one hand and from coal and oil on the other. For several years they have advertised extensively. The program outlined by the association for the next five years stresses still more advertising. Without criticising the advertising program I would like to see emphasized the principle, that generally satisfied customers are essential to the expansion of the industry. If and when gas renders better service at lower cost than any other available source of energy, there will be less need for advertising. The use of gas is almost certain to become general in those fields in which, cost considered, it renders better service than its competitors.

It appears to be the traditional belief of the gas industry that the available market, while somewhat subject to expansion by sales activity, is not appreciably affected by the cost or character of the service rendered. Nothing but a firm

Presented at the General Session of the 8th Annual A. G. A. Convention, Oct. 13, 1926.

belief in this superstition will serve to explain much of the published discussion of the past, particularly of that portion relating to service standards. Fortunately, this belief is no longer prevalent among progressive gas men who are striving to render the best possible service to their customers at the lowest cost consistent with profit, we are doing this as a good business policy as well as for the purpose of rendering public service.

Of the many problems which present themselves to this great industry there are none more complicated than those involving the determination of what constitutes good service and how to render it. This is true because many compromises are involved, especially the constantly recurring compromises between cost and quality. Fortunately, some of the most important of these problems are already solved. It may be worth while to mention some of these along with other problems that remain.

The first requirement of good service is continuity. The gas industry is to be congratulated upon its splendid record in this respect. Many companies have never had a general interruption of service during their entire existence of fifty or more years. Even local interruptions are so rare as to be almost unknown to most gas users. No greater claim to public favor can be made than this. Gas supplies convenient heat instantly, at any time of the day or night, and it is always ready for use. The daily fluctuations in demand of a great metropolitan district under sudden weather changes are almost unbelievably great and are always met.

Another major problem appears to have been solved, so far as knowledge of the facts are concerned, although something is still lacking in the application of that knowledge. We know that any combustible gas containing no more than an accidental quantity of inerts can be used with equal satisfaction in all the ordinary applications of gas, and that all such gases are used with negligible differences in thermal efficiency. We know, for example, that whether it is used in a kitchen range, an incandescent mantle, a gas engine or an industrial furnace, one cubic foot of propane with a gross heating value of about 2600 B.t.u. gives the same service as five cubic feet of coal gas of 520 B.t.u., the appliance being adjusted with equal care in each case.

How greatly these facts simplify the problems of gas supply may not as yet be generally appreciated. The customer is buying potential heat and is concerned only that the supply shall be continuous, adequate, uniform and cheap. The composition of the gas supplied has little to do with any of these factors except cost. It would appear then that the best gas is therefore the gas that can be sold to the customer at the lowest cost per B.t.u. and no factor except cost need be seriously considered. At the same holder cost per B.t.u. the gas of higher heating value has, of course, a considerable advantage because of the greater carrying capacity of the mains.

The remaining factor in perfect service so far as the delivery of the gas is concerned, is uniformity. For gas service to be perfect, both pressure and composition must be uniform. Absolute uniformity of either is, of course, out of the question and here arise the first of the problems involving compromise. We can approximate absolute uniformity of pressure by installing a sufficiently sensitive governor for each appliance, and this is actually done in those industrial applications in which the importance of such uniformity justifies the expense. Sufficient uniformity of pressure may be obtained for the great majority of customers more economically by laying additional mains, but this too increases the necessary cost of service. How far is it best to go in increasing cost for the sake of approaching perfection in service?

The unavoidable variations of pressure are far more serious in their effect upon domestic customers than are the unavoidable changes in composition of gas made by any of the processes in common use, but not greater than those likely to occur when gas is obtained from several

sources or made by several processes. Here problems similar to those involved in pressure control frequently arise. To what extent is it desirable to use a cheap supply of coke oven gas to meet a fraction of the demand regularly supplied by a gas of different composition? To what extent is it desirable to sacrifice either the basic economy of coal gas or the low fixed charges for water gas equipment for the sake of delivering at time of peak loads a gas having the same properties as that regularly supplied? These are among many similar questions that come to the Bureau for which we have no definite answers.

Similar questions must perplex the management of every gas property. It should be noted that whereas pressure variations will generally affect most adversely the domestic customer, because the industrial customer will in general install pressure controls where necessary, variations of composition have their most serious consequences to the industrial users. Variations in the amount of inerts are particularly undesirable to the latter. It can be shown that a five per cent change in heating value caused by change in inert content is a much more serious thing than a five per cent change in heating value caused by variation in the hydrocarbons present.

THE DOMESTIC LOAD

We see that the interests of industrial and domestic customers are not always identical. Recently major emphasis seems to have been placed upon an effort to secure industrial business and to please the industrial customer. Without going into the reasons for the gas man's dissatisfaction with the domestic business, something should be said for the home that requires gas, however small and irregular the demand may be. The need for convenient heat in the home has always been and probably will always be the foundation of the gas industry. Has any gas company of importance ever been established to furnish gas to shops and factories? Is there any company operating in a large city that would now be willing to start over again and build the plant and lay the mains necessary to serve its industrial customers alone at the price they now pay?

The fuel needs of homes constitute an overwhelming proportion of the total fuel required in an average city; if gas is to be in reality the fuel of the future, it will be so because service and safety with gas in the home have reached such a state of perfection that few home owners desire to use any other source of heat.

Each time a conflict arises between considerations of economy and of good service it would be well to recall what has happened in the automobile and radio industries; how cheerfully people discard something good for something better that costs more. We can all recall instances of people choosing the thing that costs more merely because the higher price indicates better quality. If the service rendered by gas is perfect, if it is more nearly perfect than that rendered by other sources of heat, no competition need be feared.

The delivery of a continuous, uniform, economical supply of available heat to the user is no more than half the task. The safe and efficient use of heat under conditions that will be pleasing to the user is equally important, and to accomplish this is perhaps the most difficult part of the task of providing gas service. Two or three years ago it seemed an almost hopeless task. There were thousands of models of appliances on the market, some of them seriously dangerous to life and health, some of them sure to make dissatisfied customers wherever they were used, some of them well suited to some of the wide variety of existing service conditions, but not to others. There was no one in a position to say which appliances were suited to which conditions or how they must be modified or adjusted to make them suitable to others. There was no standard by which even to judge whether a given appliance, with a given adjustment, supplied under definite conditions, with a given gas, was or was not dangerous.

Today there are well established and

thoroughly practicable methods of testing appliances to determine safe and satisfactory performance; there are reasonable performance standards for the main classes of domestic appliances; and 1373 models of gas ranges, 14 space heaters and 14 types of flexible gas tubing on October first have received the approval of the association's laboratory as meeting these standards after careful tests. Each of these appliances may be purchased with the assurance that if it is adjusted by a competent man after being connected to any well-controlled gas supply and is used intelligently thereafter, it will render safe and satisfactory service. The association is to be congratulated upon what has been accomplished. The work which has been done and that for which a way has been opened is the most important and promising development of many years.

After a gas user is supplied with an appliance capable of rendering perfect service, and after the appliance is connected to a continuous, adequate, uniform and cheap supply of gas, something still remains to insure perfect service, because the proper use of gas, particularly the adjustment and care of appliances, is not universally understood. Generally the only source of reliable information on these subjects which is available to the user of gas is the gas company. It is now the universal practice of gas companies, when called upon, to advise and assist their customers in every reasonable way without charge, but surprisingly few customers know this fact. Still fewer customers recognize unsatisfactory or dangerous conditions that would be apparent at once to and could be corrected easily by a skilled service man. Much has been done in recent years by certain companies to remedy this situation, some companies having gone so far as to make periodic inspections of all appliances in use, and such reports as have reached the Bureau indicate that this practice has been of benefit to company and customer alike.

As a most important measure for perfecting service and safety, earnest consideration should be given to the assumption by the gas company of greater responsibility for the character and condition of the appliances with which its product is used and according to the performance of which its service is judged.

The history of the evolution of the gas safety code is an interesting one as is also the story of the development of specifications and the establishment of the gas appliance testing laboratory. Many agencies, both governmental and industrial, contributed to the foundation on which this laboratory rests; they include not only this association and the Natural Gas Association, but also the Bureaus of Standards and Mines, the Public Health and Chemical Warfare Services, as well as state and municipal commissions, and individual gas companies. We may look forward to an era of accomplishment by this laboratory which will serve the industry and the public, whose interests are identical.

(Continued on page 680)

The Laboratory

BURETTES, graduates, flasks and pipettes in disorderly array on a long table, an acid corroded sink, row upon row of glassware and porcelain.

Thermometers and hydrometers, barometers and hygrometers, psychrometers and the various other meters that are necessary in a lab.

Chemicals—from the evil, choking bromine to the sickening sweet odor of ether; the decayed, poisonous odor of carbon disulphide; the breath-taking vapor of hydrochloric acid.

Acids that sear like molten steel, and mild vari-colored liquors, tinted and colored like the summer dresses of feminine youth.

Over to one side the balance that weighs to one thousandth of a gram, scales delicate enough to weigh dust on a butterfly's wing.

The beautiful canary yellow of a picric acid solution, the faint violet vapor from iodine crystals, the billowing brownish cloud from fuming nitric acid, auras of beauty around bottles of poison, like puffs of blue clouds above a stagnant swamp.

Tar stills, oil stills, enough stills to drive a prohibition officer to madness.

And the why of it all? Just an integral part of that great machine that supplies your city and other cities with its vaporous fuel, its concentrated, heat packed energy, GAS.

Sixteen McCarter Medals Awarded

Fitting Exercises at General Session of Convention; Three Other Medals Awarded by Committee

McCARTER Medals, awarded for the saving of a life by the prone pressure method of resuscitation, were presented to sixteen gas men at the eighth annual convention of the American Gas Association at the general session, Wednesday, October 13. Thomas N. McCarter, President, The Public Service Electric and Gas Company, Newark, N. J., donor of the medal, made the presentation to the recipients personally.

The McCarter Medal

The awarding of the medals at the convention was one of the most dramatic incidents of the entire week. Those who wear the McCarter medal form a distinctive group in the gas industry, as the medal is the symbol of supreme service. No dedication to public service could be more stimulating to the industry than the awarding of the McCarter medals to those deserving them. Coming at a time when those attending the convention were thinking along lines of improving service to the public, this award was especially fitting.

CHARLES H. FOUX

Charles H. Foux, meter repairman, Central Hudson Gas & Electric Co., Poughkeepsie, N. Y., was awarded the McCarter medal and certificate for saving the life of his brother, Percival Foux, who had been overcome by gas.

Early one morning last spring an uncle of the Foux brothers heard some one moaning, and upon investigation found Percival unconscious in his room. Charles Foux dragged his brother from his bedroom into the dining-room, and immediately applied the prone pressure method of resuscitation.

Percival's fists were clenched and his arms drawn up about his face. It was only after six or seven minutes of resuscitation that his body became limp. Resuscitation was continued for about 20 minutes, when the patient was breathing normally and was out of danger.

GEORGE MILLER

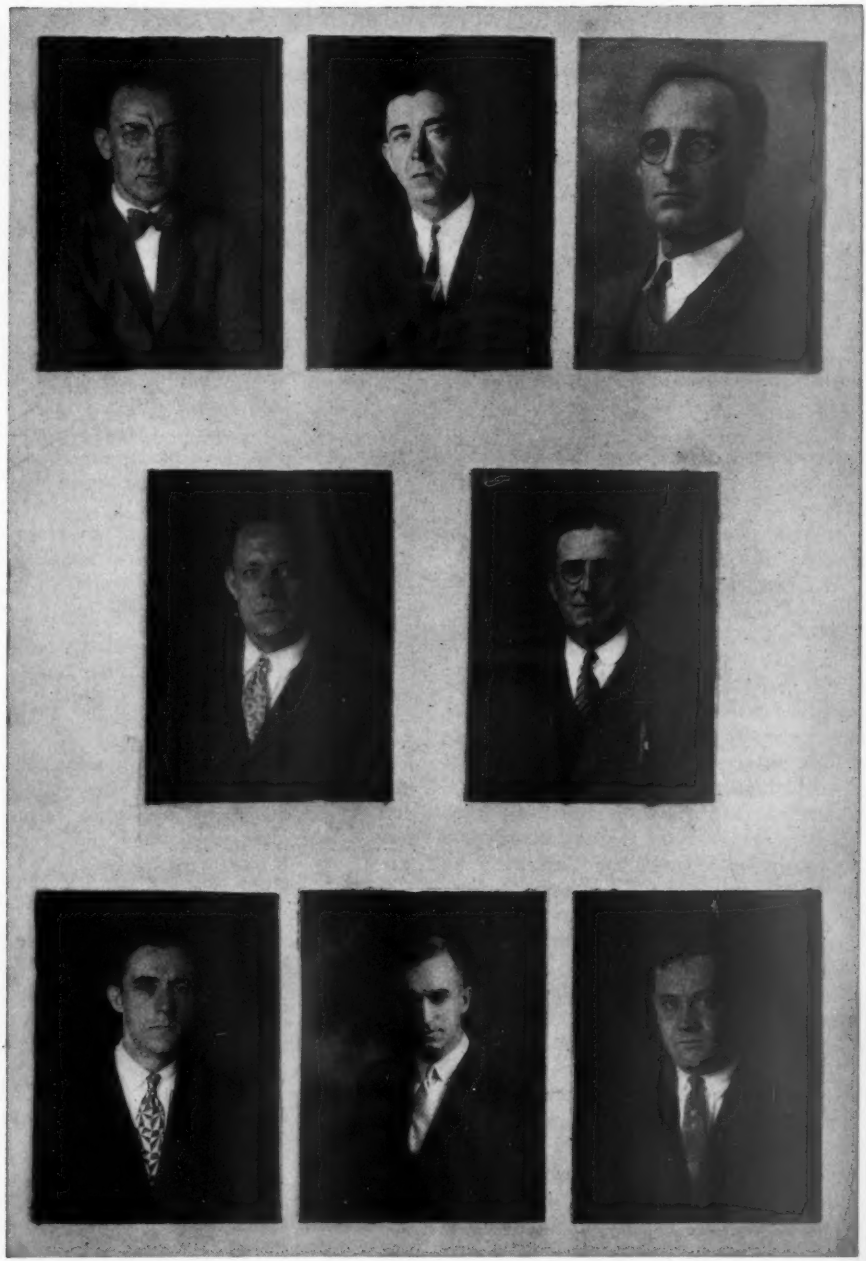
George Miller, auto driver, Public Service Electric and Gas Company, Plainfield, N. J., saved the life of William Lang, service foreman for the same company. Miller was sent to move Lang and his service gang, and when he arrived at the place where they were working Lang reported that he was having trouble catching a fitting at the main. He then fell over unconscious.

Miller immediately began the prone pressure method of resuscitation, and in five minutes Lang began to grunt and soon afterward started to breathe naturally. Aromatic spirits of ammonia completed the work and in an hour Lang was able to continue work.

Miller was awarded the McCarter medal and certificate for his work.

HARRY G. ROBINSON

Harry G. Robinson, cadet engineer, Public Service Electric and Gas Company, Newark, N. J., saved the life of Henry Sandhusen, fitter for the same company.



Top: John Keegan, Peter McDermott, and William L. Robertson. Center: Henry Colberg and John F. Hoff. Bottom: Sylvester Callahan, Charles Foux, and Joseph Gallo

Sandhusen and Robinson were working together removing plugs in a station meter, when Sandhusen was overcome with gas. Robinson carried his mate from the top of the meter, down a ladder, and outside the meter building into the open air. Robinson then sent for help and started to apply the prone pressure method. As Robinson loosened Sandhusen's collar, he stopped breathing.

Shortly after help arrived, and with the aid of an oxygen inhalator Sandhusen was revived and suffered no ill effects.

Howard S. Carpenter assisted in the resuscitation work, and was awarded the McCarter certificate.

JOHN H. HOFF

John H. Hoff, superintendent, Public Service Electric and Gas Company, Princeton, N. J., was awarded the McCarter medal and certificate for saving the life of Peter S. Unangst, of Princeton.

While working on a high pressure main Unangst was overcome by gas. Hoff was about a quarter of a mile away, and, seeing the commotion of the men when they pulled the victim from the ditch, sped up his auto and arrived just as the victim was being laid on the bank along the road.

After applying the prone pressure method for about five minutes, Hoff succeeded in reviving Unangst.

JOHN J. CAVANAUGH AND WILLIAM KLEIN

John J. Cavanaugh, assistant foreman, and William Klein, fitter of The United Gas Improvement Company, Philadelphia, Pa., were awarded McCarter medals and certificates for saving the life of Mrs. Rose Brexa, who had apparently attempted to commit suicide.

JOHN FERRY

John Ferry, fitter, The Peoples Gas Light and Coke Company, Chicago, Illinois, saved the life of Sam Wah, Chinese laundryman of Chicago, who was accidentally asphyxiated.

When Ferry answered the complaint call at Wah's place, he found gas escaping from an open oven burner. He turned off the gas and opened the doors and windows to ventilate thoroughly, when he found Wah, who had been overcome while in bed.

Using the Schafer Prone Pressure Method of Resuscitation for about twenty minutes Ferry succeded in reviving the victim. About this time Anthony Fredona and George Stoll, two employees of the company, arrived with an inhalator which they used on the patient for one-half hour although he was conscious.

Ferry was awarded the McCarter medal and certificate.

FRANK BARKER

Frank Barker, complaint man, The Peoples Gas Light and Coke Company, Chicago, Illinois, saved the life of Charles Coyne. A leak was reported from 4443 Washington Blvd., Chicago, and Barker was sent to investigate. No leak was found, but Barker noticed a strong odor of gas coming from one of the first floor apartments and looking through a window he saw Coyne sitting at a table with his head on his arm. He had been asphyxiated from gas escaping from open valves on two burners of the range.

Barker broke in and carried Coyne to a back porch and used the Schafer Prone Pressure Method of Resuscitation for about twenty minutes.

Barker was awared the McCarter medal and certificate for his act.

JOSEPH DEVER

Joseph Dever, general service foreman, The Peoples Gas Light and Coke Company, Chicago, Illinois, was awarded a McCarter medal and certificate for saving the life of Murdock Gaglirdi.

Dever was driving to a job one morning when he noticed a group gather about a manhole. He found fellow employees lifting Gaglirdi out of a sewer manhole where the above victim had been overcome by gas. The men apparently had no idea as to what to do. Dever immediately had the men place him into proper

Top: George Miller, John Ferry, and Harry G. Robinson. Center: Frank Barker and Joseph Dever. Bottom: Fred Schneider, William Klein, and J. J. Cavanaugh

position for the application of the Schafer Prone Pressure Method, and after applying the method for fifteen minutes Dever was rewarded by a sign of life shown by Gaglirdi. Five or ten minutes later the victim was completely revived.

WILLIAM L. ROBERTSON

William L. Robertson, district superintendent, Central Maine Power Company, Augusta, Maine, saved the life of Issac L. Baker, a laborer for the same company. Baker was overcome while working in a ditch where the odor of gas was quite strong. One of the men working with Baker notified Robertson, who immediately went to the scene and dragged Baker out of the ditch onto the pavement. Since it was zero weather at that time, the victim was carried into a nearby drug store. Robertson immediately loosened the clothing from the patient's neck and also cleared the mouth and then applied the Schafer prone pressure method. In about five minutes Mr. Baker began to groan, and within twenty minutes he was breathing normally.

Robertson was awarded the McCarter medal and certificate.

FREDERICK SCHNEIDER

Frederick Schneider, foreman, The Long Island Lighting Company, Huntington, Long Island, New York, was awarded the McCarter Medal and Bar for saving two lives by the Prone Pressure Method of Resuscitation. This is the second time that the McCarter medal and bar has been awarded.

Schneider saved the life of Joseph Ladman, Foreman, Gas Operating Department of the same Company, when Ladman had been overcome by gas while working in a governor pit. Schneider applied the prone pressure method of resuscitation and within twenty minutes Ladman was revived.

Schneider also saved the life of Leo Burns, assistant to Foreman, same Company, who was overcome while engaged in connecting up several high pressure gas tanks. Gas was seeping through because the valves were not shut off tight and Burns became weak and was ordered away. He apparently was all right as he walked about twenty-five feet. No one paid any particular attention to him until two or three minutes later someone shouted "Burns has collapsed." Schneider immediately applied the prone pressure method and after half an hour of resuscitation the victim became conscious.

PETER J. MCDERMOTT AND JOHN KEEGAN

Peter J. McDermott and John Keegan, employees of the Brooklyn Union Gas Company, were awarded the McCarter Medals and Certificates for resuscitating Wm. Tinnelly, who was asphyxiated while removing a gas bag from a gas main. Keegan and McDermott found the man lying unconscious on the ground, and Keegan immediately started to apply the prone pressure method of resuscitation. Keegan worked for fifteen minutes and then McDermott continued for another 15 minutes. By this time the victim had been fully revived. Both men were awarded a medal and certificate, as it was felt their work was equally valuable in the saving of a life.

JOSEPH GALLO

Joseph Gallo, a meter repair man of the Brooklyn Union Gas Company, saved the life of Pietro Centurino, who was asphyxiated while in bed. Centurino was overcome by gas just as he was about to retire for the night. He staggered into the hall and fell. His father-in-law hearing the noise came out and found him unconscious on the floor. Gallo, who lived at the same place, heard the shouts of the father-in-law and rushed to the spot. He promptly applied the prone pressure method and after 15 minutes' work succeeded in reviving the patient. Gallo was awarded the McCarter Medal and Certificate.

SYLVESTER CALLAHAN

Sylvester Callahan, a fitter employed by the Brooklyn Union Gas Company, was awarded the McCarter Medal and Certificate for saving the life of S. Pettas. Callahan was answering a leak complaint at a house in Brooklyn, but could find no leak. He diligently continued search throughout the house and when he arrived at one of the apartments he requested permission to go into the bathroom where the meter was located. A young girl refused admittance, saying that her father was in the bathroom. Callahan then waited in the kitchen and in a few minutes the bathroom door suddenly opened and a man fell to the floor unconscious. Callahan and his helper, John Frazee, carried the victim to the hall and Callahan applied the Schafer method. After working for about ten minutes the victim was revived.

HENRY J. COLBERG

Henry J. Colberg, an inspector for the Brooklyn Union Gas Company, was awarded the McCarter Medal and certificate for saving the life of Owen Denigan, who was asphyxiated while working in a manhole. Geisel and Colberg were walking along a street in Brooklyn one night and as they came to a corner they noticed a crowd gathered around a sewer hole. On approaching, they saw a man come out of the sewer. This man told them another man was lying at the bottom of the sewer. Geisel and Colberg secured a rope and by hooking it to the man's clothing pulled the victim to the surface of the street. The victim was unconscious and had turned black. Colberg immediately turned him over on his stomach and applied the Schafer method. After about 12 minutes the victim showed signs of life. Colberg kept working over him for 20 minutes and was relieved by Geisel, who continued the work for 4 minutes; Colberg then worked for five minutes more. At this time the man showed signs of life and when the emergency crew arrived about this time, the man was turned over on his back and he started to kick and fight. An ambulance was called and the surgeon advised that a pulmotor be used. A call was sent for one and the men continued their efforts and the victim was fully revived when the pulmotor arrived. Colberg was awarded the McCarter medal and certificate and Geisel was awarded the certificate.

Three Additional Medals Awarded

THE following men have also been awarded McCarter Medals and Certificates but since they were unable to attend the Convention the presentation of the medals was made locally.

HARVEY HENDRIX

Harvey Hendrix, distribution foreman of the Pacific Gas and Electric Company, San Francisco, Calif., has been awarded the McCarter Medal for successfully resuscitating John W. Gorman, who was asphyxiated while hanging drapes in a room in which a 1" house pipe had been discharging gas for some period of time.

Hendrix answered a complaint call and upon arrival at the address specified, noticed a strong odor of gas. After turning off the meter he spent some time looking for the key to get into the building. He was forced to break down the door, after he noticed a man's feet protruding from under draperies in the store. Hendrix removed the patient to the sidewalk and applied the Schafer method, which started the man to breathing. At the same time bystanders secured blankets and other material and also telephoned for an inhalator. The inhalator completed the work than Hendrix had started and the man was successfully resuscitated.

(Continued on page 676)

Graphs Paint the Picture of Progress

Picturizing Certain Trends in the Gas Industry With Charts Based on Official Statistics

THE charts shown on the next pages illustrate graphically certain trends in the gas industry based on the statistics reported to the Association by manufactured gas companies in the United States. These charts were on display at the convention.

Chart No. 1 gives the percentage of increase in the sales of manufactured gas, using 1913 as a base, as compared with the fluctuation in pig iron production and freight ton miles. It indicates the stability of the industry and its relative independence of the fluctuation of general trade conditions.

Chart No. 2 shows the increase in the sales of manufactured gas for the years 1920 to 1925 inclusive, classified according to uses. These six years show an increase of approximately 32 per cent in total annual sales. While the annual sales for domestic purposes have increased in this period 60,584,000,000 cubic feet or 25.2 per cent, the annual sales for industrial and commercial uses (wholesale sales) have increased 43,680,000,000 cubic feet, or 63.0 per cent. In 1920 the domestic uses of gas represented 75 per cent of the total sales, and the industrial and commercial uses 21.67 per cent. In 1925 domestic uses had dropped to 71.31 per cent, and industrial and commercial increased to 26.82 per cent.

Chart No. 3 represents the gain in customers from 1920 to 1925. The percentage of gain is 20 per cent compared with an increase of about 32 per cent in sales.

Chart No. 4 shows an increase of 19.2 per cent in the total gross revenue from the sales of gas over a period of five years, beginning with 1921. For the same period, the increase in gas sales amounted to 29 per cent.

Chart No. 5 shows the effect of the increasing application of gas for heating operations in the industrial, commercial and domestic fields. The sales of gas per customer increased from 35,538 cubic feet in 1921 to 39,755 cubic feet in 1925, or 11.9 per cent. The revenue per thousand cubic feet of gas, however, during the same period was reduced from $1.16 in 1921 to $1.072 in 1925, a percentage decrease of 7.6 per cent. This latter chart should be considered in connection with the table shown below, which is reprinted from Statistical Bulletin No. 2.

It will be noted that while gross operating revenue per M decreased 1.6 per cent in the table, the operating expense per M decreased 3.3 per cent and the operating income per M increased 4.6 per cent. This indicates a most healthy business condition. It means that the above companies took practically two cents less revenue per M from their consumers, and

(Continued on page 676)

COMBINED INCOME STATEMENT PER THOUSAND CUBIC FEET OF GAS SOLD—1924 AND 1923
213 GAS COMPANIES

	1924	1923	Increase or Decrease	% Increase or Decrease
Gross Operating Revenue Per M.	1.073	1.090	(—) .017	(—) 1.6%
Operating Expenses " "	.734	.759	(—) .025	(—) 3.3%
Taxes " "	.088	.091	(—) .003	(—) 3.3%
Total Operating Exp. " "	.822	.850	(—) .028	(—) 3.3%
Operating Income " "	.251	.240	.011	4.6%
Other Income " "	.073	.068	.005	7.4%
Gross Income " "	.324	.308	.016	5.2%
Income Deductions " "	.101	.098	.002	2.0%
Net Income Available for Dividends and Surplus	.223	.210	.013	6.2%

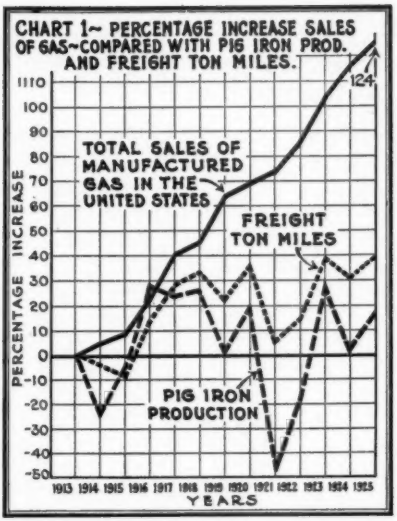


CHART 1~ PERCENTAGE INCREASE SALES OF GAS~COMPARED WITH PIG IRON PROD. AND FREIGHT TON MILES.
PERCENTAGE INCREASE
TOTAL SALES OF MANUFACTURED GAS IN THE UNITED STATES
FREIGHT TON MILES
PIG IRON PRODUCTION
124
YEARS

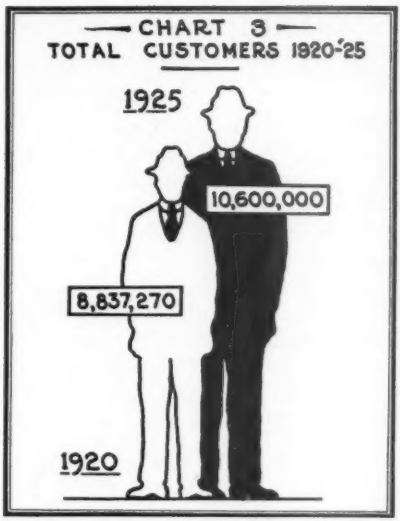


CHART 3
TOTAL CUSTOMERS 1920-'25
1925
10,600,000
8,837,270
1920

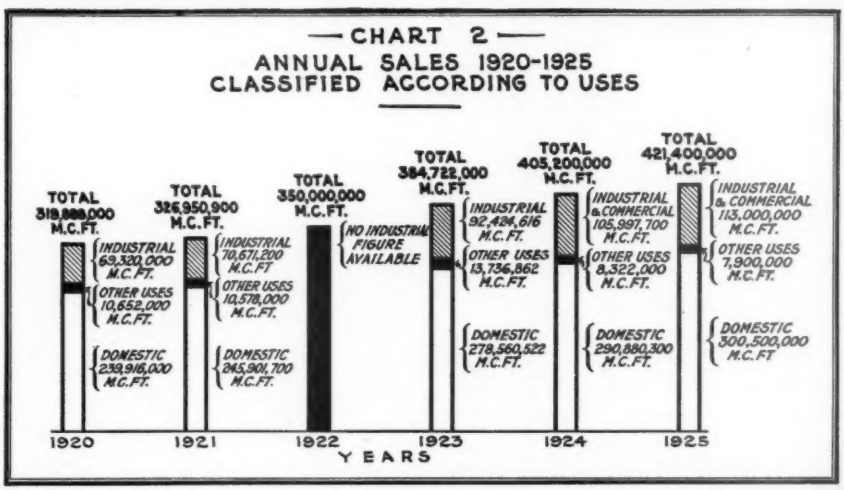


CHART 2
ANNUAL SALES 1920-1925
CLASSIFIED ACCORDING TO USES
TOTAL 319,888,000 M.C.FT.
INDUSTRIAL 69,320,000 M.C.FT.
OTHER USES 10,652,000 M.C.FT.
DOMESTIC 239,916,000 M.C.FT.
TOTAL 325,950,900 M.C.FT.
INDUSTRIAL 70,671,200 M.C.FT
OTHER USES 10,578,000 M.C.FT.
DOMESTIC 245,901,700 M.C.FT.
TOTAL 350,000,000 M.C.FT.
NO INDUSTRIAL FIGURE AVAILABLE
TOTAL 384,722,000 M.C.FT.
INDUSTRIAL 92,424,616 M.C.FT.
OTHER USES 13,736,862 M.C.FT.
DOMESTIC 278,560,522 M.C.FT.
TOTAL 405,200,000 M.C.FT.
INDUSTRIAL & COMMERCIAL 105,997,700 M.C.FT.
OTHER USES 8,322,000 M.C.FT.
DOMESTIC 290,880,300 M.C.FT.
TOTAL 421,400,000 M.C.FT.
INDUSTRIAL & COMMERCIAL 113,000,000 M.C.FT.
OTHER USES 7,900,000 M.C.FT.
DOMESTIC 300,500,000 M.C.FT
1920
1921
1922
1923
1924
1925
YEARS

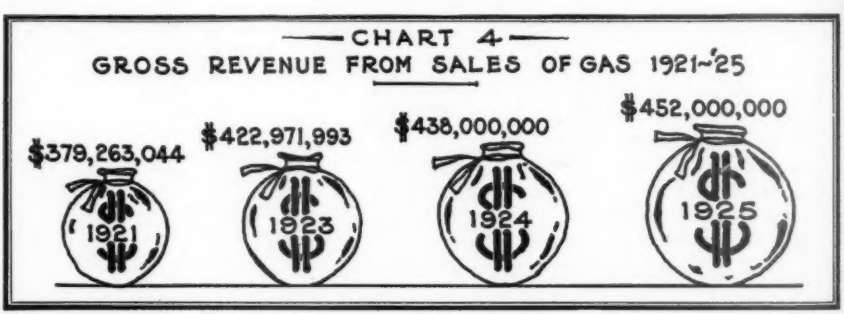
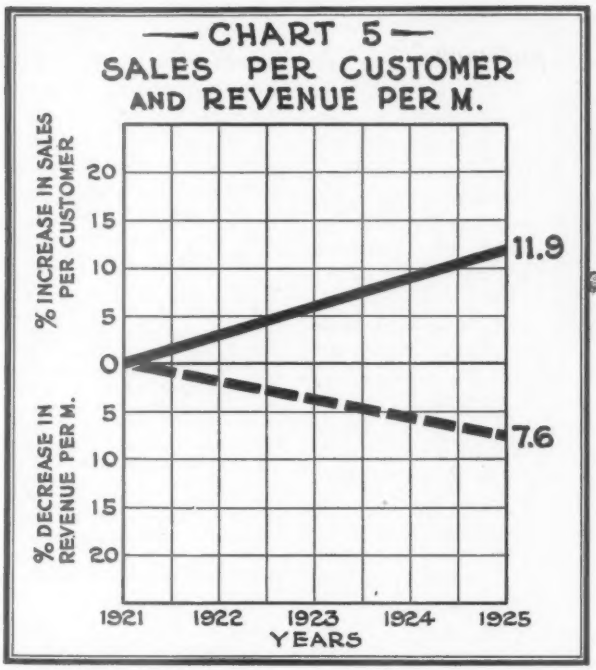
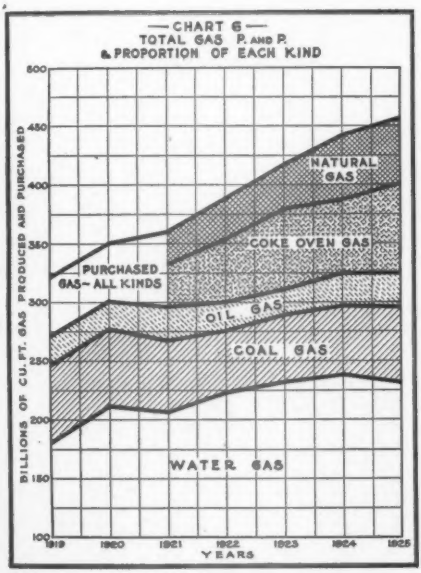
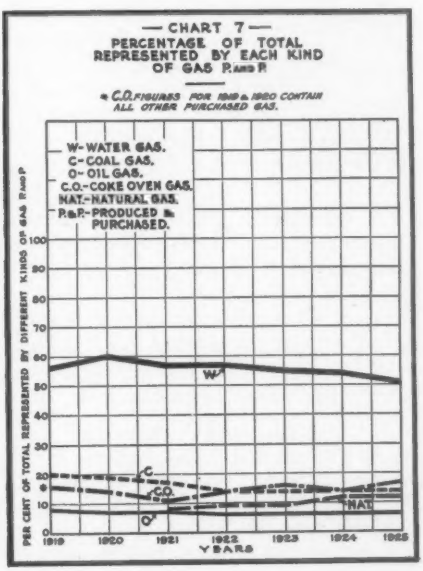


CHART 4
GROSS REVENUE FROM SALES OF GAS 1921-'25
$379,263,044
$422,971,993
$438,000,000
$452,000,000
1921
1923
1924
1925


— CHART 5 —
SALES PER CUSTOMER
AND REVENUE PER M.
% INCREASE IN SALES PER CUSTOMER
% DECREASE IN REVENUE PER M.
20
15
10
5
0
5
10
15
20
11.9
7.6
1921
1922
1923
1924
1925
YEARS


— CHART 6 —
TOTAL GAS P. AND P.
& PROPORTION OF EACH KIND
BILLIONS OF CU. FT. GAS PRODUCED AND PURCHASED
500
450
400
350
300
250
200
150
100
NATURAL GAS
COKE OVEN GAS
PURCHASED GAS - ALL KINDS
OIL GAS
COAL GAS
WATER GAS
1919
1920
1921
1922
1923
1924
1925
YEARS


— CHART 7 —
PERCENTAGE OF TOTAL
REPRESENTED BY EACH KIND
OF GAS P. AND P.
* C.O. FIGURES FOR 1919 & 1920 CONTAIN ALL OTHER PURCHASED GAS.
W - WATER GAS.
C - COAL GAS.
O - OIL GAS.
C.O. - COKE OVEN GAS.
NAT. - NATURAL GAS.
P. & P. - PRODUCED & PURCHASED.
PER CENT OF TOTAL REPRESENTED BY DIFFERENT KINDS OF GAS P. AND P.
100
90
80
70
60
50
40
30
20
10
0
W
C
C.O.
O
NAT.
1919
1920
1921
1922
1923
1924
1925
YEARS

McCarter Medals

(Continued from page 672)

GEO. MIDDLETON

George Middleton, truck driver for the Blackstone Valley Gas & Electric Company, Woonsocket, was awarded the McCarter Medal and Certificate for saving the life of Paul Bowigeois. A complaint call was received at the gas company office, advising that a whole family was asphyxiated. Upon arrival, gas company employees found four of the family unconscious and just barely gasping for breath, and one boy was apparently dead. An inhalator was used on the four unconscious people and the boy was turned over to Middleton who used the prone pressure method for about half an hour and succeeded in reviving the boy.

CHARLES J. ULLRICH

Charles J. Ullrich of the gas distribution department of the Central Illinois Public Service Company, Pana, Illinois, has been awarded the McCarter Medal and Certificate for successfully reviving Fred M. Kanouse, who was asphyxiated while replacing a gas service. Ullrich first noticed trouble when he saw a fellow workman carry Kanouse from the ditch, about half a block away. He hurried to the spot and immediately started to apply the prone pressure method. It was fully twenty-five minutes before the patient began to breathe without assistance.

Graphs Paint Picture

(Continued from page 673)

through reductions in operating expenses increased their operating income more than one cent per M.

Chart No. 6 shows the total amount of gas produced and purchased for distribution by the manufactured gas industry from 1919 to 1925 inclusive, and also indicates the proportion of each kind of gas going to make up the total.

Chart No. 7 shows the percentage ratio of the different kinds of gas produced and purchased to the total produced and purchased, and can be used to advantage in studying Chart No. 6.

A Tooth Full of Gas

USUALLY when a tooth is full of gas the owner also is filled with gas and the gas in the tooth removed—with the tooth. Recently, the West Philadelphia shop, of The United Gas Improvement Co., Philadelphia, Pa., was called on to fill a tooth with gas that required 10,000 cubic feet.

As shown in the accompanying picture, this tooth was in the form of a balloon. It was 100 feet in diameter with 20-foot prongs, and was used by the Electric Dental Manufacturing Company, 32nd and Market Streets, to advertise their products during a dental convention in Philadelphia.

Gas was supplied through a 60-A meter and it required almost seven hours to fill the bag.

THE TIDE OF MEN AND AFFAIRS

RALPH W. GALLAGHER, for four years the vice-president and general manager of the East Ohio Gas Co., has been elected president, succeeding the late Martin B. Daly. He is president of the Natural Gas Association of America to which office he was elected last spring in Tulsa. He had served one year as vice-president of the association. Mr. Gallagher has also been very active in A. G. A. work, and is now chairman of the Testing Laboratory Managing Committee.

LOUIS H. WERNER, who has been secretary of the Central Union Gas Co., New York, N. Y., is now vice-president of the New Amsterdam Gas Co., 130 East 15th Street, New York, N. Y.

ARTHUR H. ANDERSON, superintendent of manufacture of the Detroit City Gas Co., Detroit, Mich., is now superintendent of distribution for the same company. Henry Fink, who has been superintendent of distribution, is now superintendent of manufacture.

CHESTER N. STEVENS, who is with the Stevens Paper Mills Inc., 52 Vanderbilt Avenue, New York, N. Y., is now located with the same company at Windsor, Conn.

BERT F. PELTON, who has been manager of service of the St. Paul Gas Light Company, St. Paul, Minn., is now connected with the Detroit City Gas Co., Detroit, Mich.

NICHOLAS J. GYORY, formerly with the Consolidated Gas Company of N. Y., has become associated with the Westchester Lighting Co., Yonkers, N. Y.

EMIL WALZ, superintendent of the Pennsylvania Atlas Chemical Co., Washington, Pa., is now with the Surface Combustion Co., Toledo, Ohio.

LOTHROP DOW, who has been in Ann Arbor, is now associated with McClellan & Junkersfeld, New York, N. Y.

T. J. LUCAS, until recently chief engineer of the North American Light & Power Co., has opened an office in the Illinois Merchants Bank Building, Chicago, Ill., as consulting engineer, specializing in design, construction, operation, management, examinations, valuations and reports covering public utilities.

JOHN F. BYRNE, who has been in Chicago, is now with the Koppers Company of Pittsburgh, Pa.

EARL J. O'BRIENT, formerly general manager of the Pennsylvania Atlas Chemical Co., Washington, Pa., is now with the Atlas Chemical Co., Toledo, Ohio.

JAMES K. MAWHA, who has been cadet engineer with the Public Service Electric & Gas Co., Newark, N. J., is now connected with the Smoot Engineering Co. New York, N. Y., as engineer.

RAY E. LANDERS, manager of New Business Department of the Republic Light, Heat and Power Co., is now connected with the Danbury & Bethel Gas and Electric Light Co., Danbury, Conn.

ARTHUR W. HOWELL, formerly with the Northern Westchester Lighting Co., is now with the Peekskill Lighting & Railroad Co., Peekskill, N. Y.

B. B. LIVINGSTON, of Madison, Wisconsin, is now industrial gas engineer for the Consumers Power Co., Flint, Mich.

T. J. POTTER of the Standard Gas Equipment Corp., New York, N. Y., is now with the Chicago office of that company.

C. E. LEWARS, who has been secretary and treasurer of the Semet-Solvay Co., Syracuse, N. Y., is now associated with the Koppers Co., Pittsburgh, Pa.

H. D. VALENTINE, who has been assistant manager of the Heating Section of The Peoples Gas Light & Coke Co., is now connected with the Central Hudson Gas & Electric Co., Poughkeepsie, N. Y.

JACK H. WAGGONER, who has been chemical engineer for Libby Owens Sheet Glass Co., Charleston, West Va., is now connected with the Mellon Institute, University of Pittsburgh, Pittsburgh, Pa.

E. T. CARMICHAEL, manager of Budget, Northern Indiana Public Service Co., Hammond, Ind., is now connected with the Indiana Service Co., Fort Wayne, Ind.

W. GRIFFEN GRIBBEL, who has been sales manager of John J. Griffin & Co., Philadelphia, Pa., is now manager.

A. T. BARRETT, who has been traveling representative for the American Meter Co., Chicago, Ill., is now superintendent.

JULIUS BRUDER, who was assistant manager of D. McDonald & Co., Albany, N. Y., is now superintendent.

S. E. SIMMONDS, of J. J. Griffin & Co., Philadelphia, Pa., is now office manager.

A. McW. WOLFE, who has been production engineer of the Maryland Meter Works, Baltimore, Md., is now assistant manager.

LARMOUR ADAMS of the American Meter Co., Erie, Pa., is now works manager of the Metric Metal Works, Erie, Pa.

WILLIAM D. DICKEY, superintendent of the Pacific Meter Works, is now assistant manager of the Pacific Meter Works, San Fancisco, California.

LYLE C. HARVEY, industrial gas engineer of the Illinois Power & Light Corp., Chicago, Ill., has joined the Bryant Heater & Mfg. Co. sales organization, which is located in Cleveland, Ohio.

E. D. LELAND, who has been general manager of the Equitable Gas Co., Pittsburgh, Pa., has been elected assistant to the vice-president of that concern, and Geo. Whitwell, inventor and gas chemist is now general manager. Mr. Whitwell was formerly manager of the gas department of the Byllesby Engineering & Management Corp., Chicago, Ill.

Lost

GOLD tipped umbrella with initials "R. S." was lost Wednesday evening, October 13, on the Million Dollar Pier. It would be appreciated if the finder would get in touch with the editor of the MONTHLY, or Mr. Richard Shepard, 130 East 15th Street, New York, N. Y.

OUR NEW MEMBERS

GAS COMPANY MEMBERS

Marlborough-Hudson Gas Co., Marlboro, Mass.

Peoples Minnesota Gas & Electric Association, Minneapolis, Minn.

MANUFACTURER COMPANY MEMBERS

Wallaceburg Brass & Iron Mfg. Co., Ltd., Wallaceburg, Ont., Canada.

Braiding & Packing Works of America, Brooklyn, N. Y.

Jabez Burns & Sons, Inc., New York, N. Y.

Levitt Ferguson Co., Baltimore, Md .

Barstow Stove Co., Providence, R. I.

Edward Katzinger Co., Chicago, Ill.

Dalton Adding Machine Co., Cincinnati, O.

Keeley Stove Co., Columbia, Pa.

Proudfit Loose Leaf Co., Grand Rapids, Mich.

Cooper Oven Thermometer Co., Pequabuck, Conn.

A. P. Smith Manufacturing Co., East Orange, N. J.

Security Stove Mfg. Co., Kansas City, Mo.

Universal Gypsum & Lime Co., Chicago, Ill.

Foxboro Co., Inc., Foxboro, Mass.

William Parke, Inc., Camden, N. J.

F. J. Lewis Manufacturing Co., Chicago, Ill.

Emil Steinhorst & Sons, Inc., Utica, N. Y.

Stevenson Distributing Corp., New York, N. Y.

ACTIVE MEMBERS

Whitehouse, Orville M., Central Hudson Gas & Electric Co., Poughkeepsie, N. Y.

Spoerl, Arthur J., Cramer-Krasselt Co., Milwaukee, Wis.

Barry, Edwin Wm., Cohoes Power & Light Corp., Cohoes, N. Y.

Masten, Harold L., Central Hudson Gas & Electric Co., Poughkeepsie, N. Y.

Conover, Alfred L., Public Service Electric & Gas Co., Newark, N. J.

Peachey, Jr., George Henry, Boston Consolidated Gas Co., E. Boston, Mass.

Beugler, Frank R., Central Hudson Gas & Electric Co., Poughkeepsie, N. Y.

Merritt, Howard N., N. Y. & Queens Gas Co., Flushing, N. Y.

Truitt, Ralph F., Cons. Gas Electric Lt. & Pwr. Co., Baltimore, Md.

Mezger, Dr. Robert, Stadtishes Gaswerk Stuttgart, Stuttgart, Germany.

Bollinger, Charles, American Meter Co., New York, N. Y.

Dimes, Miss Bessie E., Standard Gas Light Co., New York, N. Y.

Bristol, Gardner L., The Greenwich Gas Co., Greenwich, Conn.

Morse, Carl J., Greenwich Gas Co., Greenwich, Conn.

Coughlin, Francis J., Greenwich Gas Co., Greenwich, Conn.

Houston, Charles L., John C. Houston, New York, N. Y.

MacKrell, Franklin C., Servel Corp., New York, N. Y.

Hunt, P. C. Holmes, Colonial Gas Association, Melbourne, Australia.

McCalley, R. M., Portland Gas & Coke Co., Portland, Ore.

Potter, John H., Public Service Electric & Gas Co., Newark, N. J.

Johnson, J. Edward, Public Service Electric & Gas Co., Newark, N. J.

Strange, Harry G., Public Service Electric & Gas Co., Hackensack, N. J.

Terry, William C., Nashville Gas & Heating Co., Nashville, Tenn.

Bender, Walter J., Public Service Electric & Gas Co., Newark, N. J.

Cameron, J. Robert, Howe, Snow & Berbles, Inc., New York, N. Y.

Bollmeyer, Fred J., Ohio Committee on Public Utility Inf., Cleveland, O.

Sainte-Marie, Arthur N., Montreal Light, Heat & Power Cons., Montreal, Que.

Heyman, Nicholas C., Consolidated Gas Co. of N. Y., New York, N. Y.

Schrader, Lloyd F., Foundation Oven Corp., New York, N. Y.

Fetzer, Rodger E., John J. Griffin & Co., Philadelphia, Pa.

Munnikhuysen, Walter F., The Koppers Co., Chicago, Ill.

Powers, Raymond T., Northern Westchester Lighting Co., Ossining, N. Y.

Whittington, James A., Peoples Gas Light & Coke Co., Chicago, Ill.

Cox, George B., Northern Westchester Lighting Co., Ossining, N. Y.

Fagan, John H., Fagan-Andrews Co., Milwaukee, Wis.

Modzikowski, Stanley J., The Peoples Gas Light & Coke Co., Chicago, Ill.

Bock, James H., The Tampa Gas Co., Tampa, Fla.

Shaughnessy, James F., Greenwich Gas Co., Greenwich, Conn.

Humrichouse, Levis M., Elk River Coal & Lumber Co., Philadelphia, Pa.

Baehr, William B., North Shore Gas Co., Waukegan, Ill.

Garrison, William Van S., Consolidated Gas Co., of N. Y., New York, N. Y.

Newton, Elizabeth Caldwell, Cambridge Gas Light Co., Cambridge, Mass.

McCrea, Walter Dale, Cambridge Gas Light Co., Cambridge, Mass.

Darling, Grayce I., Cambridge Gas Light Co., Cambridge, Mass.

Miller, Robert W., Pacific Lighting Corp., San Francisco, Calif.

Pohlman, Edward F., The Peoples Gas Light & Coke Co., Chicago, Ill.

Heckler, Geo. H., Washington Gas Light Co., Washington, D. C.

Overton, A. G., Alabama By-Products Corp., Birmingham, Ala.

Moon, C. Percy, Public Service Elec. & Gas Co., Newark, N. J.

Doyle, Perrie J., Public Service Electric & Gas Co., Newark, N. J.

Feytel, Joseph L., Public Service Electric & Gas Co., Newark, N. J.

Hall, George F., Public Service Electric & Gas Co., Newark, N. J.

(Continued on page 681)

Affiliated Association Activities

H. M. Brundage, President, Empire State Gas & Electric Association

Empire State Gas and Electric Association

THE Twenty-second Annual Convention of the Empire State Gas and Electric Association held at Lake Placid Club, N. Y., October 4 and 5, 1926, was well attended, the program interesting with ample entertainment features. An address on the "Selection and Training of Utility Company Employees" delivered by Samuel S. Board, Director of the Yale Graduate Placement Bureau, proved to be valuable and inspiring. A brief talk was made by Charles R. Vanneman, Chief Engineer of the New York Public Service Commission.

An outstanding report of the work of the New York State Committee on Public Utility Information was presented by the Chairman, M. S. Sloan. Dr. Theodore J. Grayson, Director of Evening School of Accounts and Finance, University of Pennsylvania, addressed the Convention on "Management Problems of the Holding Company." Miss Helen Smith, Lighting Engineer of the Rochester Gas & Electric Corporation, spoke in a humorous vein on behalf of the Women's Section of the Association. The last speaker on the program, the Right Reverend David Lincoln Ferris, Chief Coadjutor of Western New York, delivered a splendid address.

The officers elected for the ensuing year are President, H. M. Brundage; First Vice-President, H. O. Palmer; Second Vice-President, C. S. Ruffner; Treasurer, W. J. Welsh; Executive Committee, S. G. Rhodes, A. H. Schoellkopf, F. B. Steele, F. A. Stoughton, and E. C. Scobell.

Pennsylvania Gas Association

GEORGE L. CULLEN, secretary-treasurer of the Pennsylvania Gas Association, announces the Mid-Year Meeting of the Pennsylvania Gas Association, to be held at the Valley Forge Hotel, Norristown, Pa., December 6th, 1926.

There will be a Council Dinner Meeting, together with the chairmen of the various committees, at the same hotel the night before the Mid-Year Meeting, at 7 p.m.

The appointment of the following committees assures a most successful meeting.

Papers and Program Committee

Wallace G. Murfit, Chairman, Newtown, Pa.; H. S. Bair, York, Pa.; F. M. Baty, Easton, Pa.; W. H. German, Harrisburg, Pa., and W. G. Sterrett, Chester, Pa.

Mid-Year Meeting Committee

E. G. Boyer, Chairman, Norristown, Pa.; E. W. Fox, Norristown, Pa., and M. N. Bailey, 1513 Race St., Philadelphia, Pa.

Michigan Gas Association

MACKINAC ISLAND, Michigan, has proved to be such an ideal location for the annual convention of the Michigan Gas Association that the 1927 Convention will be held there on July 5, 6 and 7.

Live Coals Start New Public Service Plant

OPENING of the new Harrison Gas Works of Public Service Electric and Gas Company recently was preceded by an interesting ceremony. Live coals from the Market Street Gas Works, Newark, where the fires have been going continuously since 1847, were carried to the new plant in Harrison and used to light the fires under the boilers, thus perpetuating the flame that has been unextinguished for the past seventy-nine years. It is a well-known fact that fires that are originally built under boilers in gas plants continue to burn until the plant is discarded. Accompanying the small truck that carried the live coals were several of the oldest men in the employ of the company and its predecessors.

For Manufacturer Members and Everyone

THE following appeared in a recent issue of THE MONTHLY; it has been reprinted on request.

"One of our most active manufacturer company members has sent out the following very interesting letter to a number of A. G. A. manufacturer company members. Our people are reminded that a directory of gas equipment manufacturers who are company members of the A. G. A. was published as Part 2 of the Monthly for April.

"Gentlemen:

"You are spending good hard-earned money for the privilege of membership in the American Gas Association. So are we. The Association deserves and needs our support, but are we cashing in on this investment to the greatest possible extent? Our thought in writing to you is to try to increase the return from this investment. Here's our suggestion:

"That each manufacturer company member instruct all of its salesmen to talk A. G. A. activities to every gas company member called on, and that the value of these activities be emphasized. It is undoubtedly to the advantage of the Gas Companies to assist in these activities in every possible way, and one simple way is by supporting those Manufacturing Companies who in turn are supporting the A. G. A. This support can be increased by patronizing, wherever possible, A. G. A. members rather than companies that contribute nothing toward the support of the Association.

"We have adopted this policy. Will you help in pushing it along?

Very truly yours."

Perfecting Service and Safety

(Continued from page 666)

In the realm of code making, the question may be raised as to whether you have gone far enough? The present code is limited to "that portion of the field of manufactured gas practice which lies within the buildings of the consumer." True, this association has a set of rules relating to safety in the plant and there are also rules and even ordinances relating to installations, appliances, and accessories, but the tendency in many industries is at present to formulate such rules and restrictions into a national code under the auspices of the American Engineering Standards Committee. There is great advantage in having a single model code prepared by competent authority and recommended for adoption generally by regulatory bodies. At the Bureau of Standards, we feel the scope of the gas safety code should eventually be extended to include all hazards in manufacture, storage, distribution and use.

Finally, I venture to call attention to what seems to me to be of paramount importance in service and safety in the gas industry, taken from the report of your committee on "Three- or Five-Year Program," namely, the paragraph which says, "That technical research in all fields affecting the gas industry be intensively prosecuted." There are many questions vitally affecting your industry and its relation to the public which have not yet been answered, for which answers seem imperative, and can only be found by intensive research. Your appliance laboratory is a going concern meeting in a splendid way the demands put upon it.

Is the industry ready to go further and establish a research group with a laboratory, using also as seems desirable one or another of your plants for study under service conditions? Your proceedings contain accounts of many excellent investigations carried out on private initiative, but it might be well to consider also the advisability of a national program of research on matters fundamental to the whole industry, carried out under the auspices of this Association, using as may be required your combined facilities. I believe such a program carefully planned, vigorously prosecuted, and intelligently executed would do more than anything else to benefit the gas industry and our ever increasing gas using public.

In Memoriam

A. C. M. Azoy, East Orange, N. J.

Consolidated Gas Company of New York Announces Training Course

THE training of graduate engineers to become gas service men and salesmen is part of a new plan announced recently by Geo. B. Cortelyou, president of the Consolidated Gas Company of New York. A dozen graduates, representing half a dozen scattered engineering colleges and universities, have been accepted by the company to undergo a rigorous course of training in gas manufacture and laboratory work.

Half of the group will be given practical training in all phases of gas plant operations. They will fire retorts, engage as pipe fitters, and during their training perform every operation which goes into the production of gas. The other half will be given a course of training in the Utilization Testing Laboratory, which the company maintains on East 111th Street, New York.

"This course has been adopted by the Consolidated Gas Company as a means of still further raising the standard of our service to the people of New York," Mr. Cortelyou said. "It is also hoped that it will have the effect of encouraging technical students throughout the country to avail themselves of the many opportunities now offered by the manufactured gas industry.

"As the ideal fuel for all heating purposes, gas service is destined to occupy an increasingly important place in the economic and social structure of all urban communities.

"The response from engineering schools has been most encouraging and made the selection of candidates a difficult task. These include men from Stevens Institute of Technology, George Washington University, Lehigh University, Sheffield Scientific School of Yale, California Institute of Technology and the University of Virginia.

A college graduate (Yale) pulls a retort

"As a consequence the gas company will make the training course a permanent part of its organization."

OUR NEW MEMBERS

(Continued from page 678)

Glendinning, Andrew N., Public Service Electric & Gas Co., Newark, N. J.
Reynolds, F. Edgerton, Public Service Electric & Gas Co., Newark, N. J.
Speir, Jr., Robert W., Public Service Electric & Gas Co., Newark, N. J.
Beattie, Alexander M., Public Service Electric & Gas Co., Newark, N. J.
Ryan, W. P., Public Service Electric & Gas Co., Newark, N. J.
Hogan, Henry J., Public Service Electric & Gas Co., Newark, N. J.
Landwesser, A. T., Public Service Electric & Gas Co., Newark, N. J.
Ruse, William F., Public Service Electric & Gas Co.:, Newark, N. J.
Johnson, Chas. W., Public Service Electric & Gas Co., Newark, N. J.
Honywill, John H., Public Service Electric & Gas Co., Newark, N. J.
Mulligan, Jos. F., Public Service Electric & Gas Co., Newark, N. J.
Hoagland, H. D., Public Service Electric & Gas Co., Newark, N. J.

Statement of the Ownership, Management, Circulation, Etc., Required by the Act of Congress of August 24, 1912

Of the American Gas Association Monthly published monthly at Brattleboro, Vermont, for Oct. 1, 1926.

State of New York, County of New York, ss.

Before me, a notary public in and for the state and county aforesaid, personally appeared Howard F. Weeks, who, having been duly sworn according to law, deposes and says that he is the Editor of the American Gas Association Monthly and that the following is, to the best of his knowledge and belief, a true statement of the ownership, management (and if a daily paper, the circulation), etc., of the aforesaid publication for the date shown in the above caption, required by the Act of August 24, 1912, embodied in section 411, Postal Laws and Regulations, printed on the reverse of this form, to wit:

1. That the names and addresses of the publisher, editor, managing editor, and business managers are: Publisher, American Gas Association, New York, N. Y.; Editor, Howard F. Weeks, New York, N. Y.; Managing Editor, None; Business Managers, None.

2. That the owner is: (If owned by a corporation, its name and address must be stated and also immediately thereunder the names and addresses of stockholders owning or holding one per cent or more of total amount of stock. If not owned by a corporation, the names and addresses of the individual owners must be given. If owned by a firm, company, or other unincorporated concern, its name and address, as well as those of each individual member, must be given.) American Gas Association, 342 Madison Ave., New York City; President, H. C. Abell, 342 Madison Ave., New York, N. Y.; Vice-president, A. B. Macbeth, 342 Madison Ave., New York, N. Y.; Treasurer, H. M. Brundage, 342 Madison Ave., New York, N. Y.; Secretary-manager, Alexander Forward, 342 Madison Ave., New York, N. Y.

3. That the known bondholders, mortgagees, and other security holders owning or holding 1 per cent or more of total amount of bonds, mortgages, or other securities are: (If there are none, so state.) None.

4. That the two paragraphs next above, giving the names of the owners, stockholders, and security holders, if any, contain not only the list of stockholders and security holders as they appear upon the books of the company but also, in cases where the stockholder or security holder appears upon the books of the company as trustee or in any other fiduciary relation, the name of the person or corporation for whom such trustee is acting, is given; also that the said two paragraphs contain statements embracing affiant's full knowledge and belief as to the circumstances and conditions under which stockholders and security holders who do not appear upon the books of the company as trustees, hold stock and securities in a capacity other than that of a bona fide owner; and this affiant has no reason to believe that any other person, association, or corporation has any interest direct or indirect in the said stock, bonds, or other securities than as so stated by him.

5. That the average number of copies of each issue of this publication sold or distributed, through the mails or otherwise, to paid subscribers during the six months preceding the date shown above is .... (This information is required from daily publications only.)

HOWARD F. WEEKS.

Sworn to and subscribed before me this 29th day of September, 1926.

(Seal) STEPHANIE MATYAS,

Notary Public, New York Co. No. 639.

(My commission expires March 3rd, 1927.)

The Final Cost
It is not altogether the cost of fuel, but the cost of using it that tells the final story in your ledger.
One firm reports a 28% reduction in heat cost, for one process, through using gas.
Another firm has increased its productive capacity 6.4%.
Still another is saving at the rate of $40,143.40 a year.
Thousands of similar cases might be cited.
But the important thing to you is: what will gas do in your plant?
One of our experienced representatives can help you find the answer. Write or phone us today —you will be under no obligation.
Four Advantages of Gas
Dependable— any time, any place, any quantity.
Economical— lowest final cost per unit of production.
Controllable— exact temperatures, automatically controlled.
Clean— comfortable factory working conditions.
(Signature and Telephone of Gas Company)
YOU CAN DO IT BETTER WITH GAS

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But the important thing to you is: what will gas do in your plant?
Our interesting book, "Gas—The Ideal Factory Fuel", may help you to find the answer. Write for a copy today.
Four Advantages of Gas
Dependable— any time, any place, any quantity.
Economical— lowest final cost per unit of production.
Controllable— exact temperatures, automatically controlled.
Clean— comfortable factory working conditions.
American Gas Association
342 Madison Avenue, New York City
YOU CAN DO IT BETTER WITH GAS

The November industrial gas advertisement for insertion in trade papers is shown on the right. Mats of this advertisement for use in local newspapers can be supplied at a small cost. November mat is shown on the left. Send your order for mats to Association headquarters

ACCOUNTING SECTION
A. L. TOSSELL, Chairman EDWARD PORTER, Vice-Chairman
H. W. HARTMAN, Secretary

Report of the Committee on Going Value

By J. I. BLANCHFIELD
Brooklyn Union Gas Co., Brooklyn, N. Y.

THE inclusion of the subject of going value in the 1926 program of study by the Accounting Section is the result of a direct request on the part of one of the leading executives of the gas industry that the Accounting Section undertake some analysis and consideration of the accounting and statistical aspects of this important subject, supplementing what is being done, along legal and policy-determining lines, by the Standing Committee on Rate Fundamentals.

The existence of going value as an actual element of property value has come to be generally recognized in rate proceedings, and its importance as an element of the rate base justifies exhaustive study from every aspect.

It is not the desire of your Committee to dwell upon the definition of going value. A consideration of its definition is necessary, however, to state the present conception of going value as understood by the Committee, and also to indicate the relationship of accounting studies in the determination of its existence and extent.

"Going value" as testified to in recent cases, has been defined as the excess value possessed by a plant with its business attached, its properties and systems tuned up and coordinated, and its routines developed to a regular course, over the value of a similarly situated plant of equal capacity physically complete and ready to operate, but for which the business must be attached and other important intangible attributes secured. Going value is an inherent attribute of a regularly operating property.

In some of the earlier cases in this country, difficulty seems to have been experienced in marking sharply and satisfactorily the differentiation between undistributed structural costs, going value, and good will. The relationship of each of these elements to the "bare bones" cost of the materials and labor entering into the physical property, and the natural chronological demarcation between them, have been analyzed so concisely and clearly in the proofs in the *Brooklyn Borough Gas Company* case in the United States District Court for the Eastern District of New York (decided October 1, 1926), that we summarize from that case. The three stages of the bringing into being of a utility project are:

(1) *Before the physical plant and property is complete and ready for operation:* The corporate and construction costs of this period relate to the *physical* property and constitute either distributed or *undistributed structural costs.* The latter are an inescapable part of the cost of the physical property, and have nothing to do with going value.

(2) *After the physical property is complete and ready for operation:* Then comes the attaching of the business, the ironing out and tuning up of the plant and property, the assembling and coordination of personnel, the encouraging of a more extensive and intensive use of gas, etc. This is the stage within which the elements of *going value* are acquired and developed. Sometimes a start is made, or preparation begun, on some of these elements, before the completion of the physical plant, but that does not alter the sound chronology, in principle.

(3) *After the property and personnel have been coordinated and a going volume of business has been secured: Then good will* may or may not be secured. A utility may not secure going value until it has a plant and property ready for operation. It may not secure good will until after it possesses going value. It cannot obtain the good will of its customers until it has obtained its customers and until its plant and personnel have been completed and coordinated in serving and pleasing them. It may obtain going value without ever attaining good will, but it cannot begin building good will until it first has customers and organized capacity to serve and please them.

Presented at the Accounting Section Meeting, A. G. A. Convention, Oct. 13, Atlantic City, N. J.

It may be stated at the outset, that the studies of your Committee fortify the opinion that the measurement of going value is essentially a matter of opinion and judgment of qualified executives, and is not susceptible of computation by any ready mathematical formula of cost accounting.

The various elements and advantages, which constitute going value, exist in different proportions in different properties. The extent to which each may attach *value* to a property, may not be aligned with identifiable items of *cost,* and has been held to bear no relation to the accounting classifications between capital and operating, as the original outlays of the utility have been divided in its books of account.

The elements of going value are elements of property—intangible but actual —and the rules of valuation which have been established as to tangible property are fairly applicable to intangibles as well. The *present* value of intangible elements is not measured by their original cost to the particular company. We find no sound reason for the disposition of some companies to appraise their physical properties on a present value basis but to "value" only on an original cost basis the undistributed corporate and structural costs and the elements of going value. The book cost of going value is not a *measure* of its present worth. The actual, current cost, per books, of doing and acquiring the things which enter into going value is often most informative and helpful, as a source of data as to the present unit costs of the various operations; but if they cover or include a period at all remote, book costs are not "a useful guide" to the present value of either tangible or intangible property. So we are not in accord with any tendency to overemphasize *accounting and statistical* studies, in an effort to *compute* something which rests essentially upon competent executive judgment.

It is the present judgment of your Committee that until precedent has become more definitely established by way of crystalizing the legal status of this element of property it is not a profitable field for detailed acounting study and report, and that the Committee may best make a progress report at this time, confining its activities to an analysis and comment upon some of the recent accounting studies submitted in support of estimates of going value.

In the Carolina, Clinchfield & Ohio Railway valuation case, before the Interstate Commerce Commission, in 1925, a study of going value was presented by the railroad, divided under the following heads:

1. Cost of developing traffic.
2. Cost of developing an organization.
3. Cost of seasoning of roadway and track.

This proof seems to have been essentially opinion testimony, but was supported by accounting studies of the cost of inexperienced men as compared with men of experience, in which the period of three years was adopted as required to develop an efficient engineer or conductor, and one year to develop an efficient fireman or brakeman. This study included the cost of accidents that could be traced to inexperience and lack of judgment, drawn from the service record of the first three years of engineers and conductors. It also included the cost of the excess quantity of coal used by firemen during the first year. A detailed study for the remainder of the organization was not considered practicable, and the cost of training of these employees was included in an opinion estimate of the total cost to develop the entire trained personnel.

Similar studies were offered of maintenance of way costs attributable to seasoning of the roadbed, but the amount applicable to this element of value was offered as opinion testimony.

In the *Consolidated Gas Company* case before the United States District Court in 1924, various accounting studies setting forth the "financial history of the company," were submitted as reference data

(Continued on page 690)

Who Knows About Gas and Why Not?

Advertising and Its Importance to the Gas Industry

By JOE CARMICHAEL
Director, Iowa Committee on Public Utility Information

THE implication conveyed by this subject, "What the Public Knows About Gas and Why Not?" is that the public knows little or nothing about the service rendered by the gas industry. Well, now, does it? And why doesn't it?

There will be those who will question the full truth of this implication.

"Why," they will say, "the man is wrong. We spent thousands of dollars last year to advertise our business. During a hot water heater campaign we bought hundreds of inches in each of our daily newspapers to tell our story."

Joe Carmichael

Of course they did, or they wouldn't have sold their heaters. In order to back up their salesmen properly they should have spent about three per cent of their gross in advertising.

But that isn't telling the people about the gas industry. The public might read all the hot water heater advertising ever published and not have a friendly knowledge of the service of the industry.

Another will say, "Why, we spent $5,000 two years ago in a good will advertising campaign, explaining carefully our organization, the difficulties encountered in rendering service, etc."

Two years ago, they did that.

Why, if the manager of that company were out in the middle of a lake in a leaky row boat, he wouldn't just take the bait can and bail all the water out of the boat and then throw the can away and sit back resting assured of his safety. No. He would keep right on bailing. And he would redouble his efforts as the hole in the bottom became larger.

That's just exactly what we have to do in regard to the publicity of our business.

The old corporate boat's going to sink if we don't keep everlastingly at it. That is, it is going to sink so far as we are concerned. Gas service is going to continue, but there will be some other fellow in charge.

Those people to whom he told his story two years ago have probably forgotten all about it.

Do you know that I am inclined to think that there is one department of the gas business that is not keeping step with the rest, that is holding back the proper development of the industry.

Gas engineers, the technical men, who think and ruminate and work and experiment, are doing their part. They are attacking the problems of service scien-

Presented at the National Advertising Conference held at the A. G. A. Convention, Atlantic City, N. J., Oct. 12.

tifically and solving them. Other keen minds are working out the intricacies of the financial set-up, building it, solidifying it, rendering it constantly more safe and more flexible in order that the industry may develop constructively. Others are working out the serious problems of corporate management in order that the service may be rendered expeditiously, safely, ceaselessly and cheaply.

But are we in the advertising and publicity end doing our part? Are we following closely on the heels of the tremendous and successful efforts of other departments? Will the full benefit of the endeavors of these other departments be realized if we don't follow them up quickly by carrying their story to the public which must know of their accomplishments if our customers are to be induced to help us in the development of our business?

There was oil under the prairies of Texas and Oklahoma for ten million years before anyone knew anything about it. What good did the oil do? And the wonderful structure of our industry will remain impotent for the fullest measure of public welfare if we don't get busy and put the story across.

But, why do we want the public to know about the gas industry? What do we want them to know? And how are we going to get the information over?

There are at least three reasons why we want them to know about gas service. 1. In order to sell more service. 2. In order to sell more securities. 3. In order to cultivate their kindly consideration when we ask for favors.

I am going to confine myself to a discussion of the second reason—advertising in order to sell more securities.

We are told by the keen thinkers in the industry that an unprecedented era of expansion is just ahead, that although the output of our product has doubled in the last ten years and quadrupled in 20 years, that more millions than were dreamed of a decade ago will be required to finance the demands which will be made on us tomorrow. This money, as we know, but the public doesn't know, must come in the form of new capital.

But there is one condition of which we must not lose sight. Other industries, too, need money for expansion, other public utilities, other industrial enterprises. Scores, hundreds of them throughout the country are seeking money, money, money, constantly, in order to branch out and take care of the demands which they foresee in their business. There is and will be the keenest competition for capital.

And not only the industries in the United States require this new capital, but throughout the world. The nations of the earth are looking to us for the means whereby they may develop their resources. We are becoming, have become, the bankers of the world since the world war. All these enterprises are bidding for the savings of the American people.

The industry which makes the best showing, which puts up the most plausible appeal to the earnest consideration of the investor, about which he knows something, with whose organization and operation he is familiar, in whose integrity he has the most confidence is the one that will get the money—at the lowest rates.

The expanding gas industry is vitally interested in the small investors who number millions. It wants them, not only their money, but their friendship, their interest. But we must get their interest before we can get their money.

What an asset to an industry which must expand, which cannot stand still to have this confidence of the public, this understanding of its problems, this sympathy with its aims and ambitions.

But what is there to tell the public about the gas industry that it does not know?

The trouble is to know where to begin and the referee's whistle, only, marks the conclusion.

The economy of gas service; the relatively low cost in comparison with other services, less than two per cent of the family income, I believe.

The stability of the industry; based on a need that continues through economic upheavals because the people must cook their food, and the low cost, if emphasized, makes it one of the last to be affected by forced economies.

How highly the gas industry ranks in importance among the industries of the country, five billions of dollars invested, 500 millions more needed every year, a million and a third every day, over $57,000 every hour, nearly a thousand dollars a minute, not to provide the service that the customer is getting today but to take care of the additional service which he will need tomorrow; 45 millions spent for gas appliances; 75,000 people employed to render this service, 30,000 employed making gas stoves and ranges alone; 46 million people served.

The growing importance of industrial gas service; something that the public should know about if it is to be asked to invest its money in the business, even though few, relatively, will become industrial users of gas.

The earnest co-operative work that the industry is doing through its Cleveland laboratory to raise the standard of appliances.

The efforts being made to develop new appliances and improve the older standard ones.

The patient research work that is being done by the industry to discover improved means of manufacturing and distributing gas and searching for new uses, so that the cost of service may be lowered.

What these research men are doing to solve the problem of househeating. The public is already largely sold on the proposition of househeating by gas. They are waiting for it.

The health feature of the use of gas through the elimination of the smoke and dust of the kitchen stove. The span of life of Americans is growing longer and health experts ascribe no little of the credit to the exit of the stuffy, smoky, dirty kitchen stove and the indigestible soft coal dust floating around the room where food is being cooked.

The constant, ceaseless efforts of the gas man to be ready to provide service at a moment's notice, at any hour of the day or night.

What it costs to be ready to serve at a moment's notice, whether ten feet of gas is used or ten thousand. Many gas men throw up their hands in despair when it is suggested that they try to educate the public in regard to the readiness-to-serve charge: "Oh, they won't understand." Have they ever made a patient, earnest effort to explain the justice of this charge, the unfairness to a large proportion of their customers of requiring them to pay for a convenience for their neighbors?

The large amounts of money spent as assurance that service will not be suspended, for machinery and various equipment that may never be used for only a few days in the year, but are there if needed on a moment's notice.

And something about the financial structure of the gas company, its earnings and their division, the more frank the statements the more convincing they will be. There is a demand for this information.

No one, surely, needs to argue that we want the public to know about our business, nor is there any question about what we want them to know. We want them to know all that they can absorb. Oh, of course, there are a few who still maintain that the gas company is their business and that of nobody else and they'll run it as they see fit. They are going to force their service down the throat of the public much like we used to give the children paregoric. Now we give them candy cathartic and have to hide the bottle to keep them from taking more.

My! Will the time ever come when we will have to say to the investing public, "Sorry, old chap, but you can't have any securities today. We are all out." When we have to hide the bottle? Yet there are some fortunate companies which can say that very thing, whose securities are in constant demand.

We know we want them to know.

But how are we going to get the story to them?

That job is ours. It isn't the public's duty to come to us and find out. It is our duty to take the information to them, metaphorically ram it down their throats, but actually entice, cajole, wheedle them into a state of the necessary knowledge.

The trouble is that we want the public to have this information and we know how it can be put across but we don't want to pay the price. We have been hemming and hawing for years, fiddling around, establishing national publicity bureaus, committees on public utility information, flooding the newspaper wastebaskets with scads of literature and trying in every way to edge into public notice on our gall and nerve.

Of course, I don't want to say anything against committees on public utility information for I make my living as a director of one of them. But they can't put this story across for you. What the newspapers want from them is real live news of today's happenings. The news men want a place where they can go for authoritative information on subjects

concerning news events, The news columns of the newspapers are not educational mediums. We may argue with ourselves until doomsday that they ought to tell the story about gas that we want to get across. But unfortunately for us they have a different idea of their function and anything we say isn't going to change that idea.

Committees on public utility information do have duties of an educational nature. They carry on this work through legitimate educational channels, in the schools, colleges and study clubs. The bulletins on the gas industry which most of them issue are being used by hundreds of thousands of students throughout the country and are doing much to prepare the coming generation for your story. But this must be remembered: students forget a lot when they get out of school and unless constantly reminded of what they have learned it will soon pass from their memory.

The way to get the story across is to go directly to the people who use gas service with your story. Tell your story directly through the advertising columns of the newspapers in the cities and towns which have gas service. The people whom we want to reach first with our story are the people near the gas house, people in the territory which has gas service, and also those in the immediately surrounding territory who may move to town sooner or later or to whom gas service may be extended.

Your likeliest prospect for a customer for gas securities is the man who uses gas, who can see the gas house, who realizes that his money is being put to work to serve him. And it would be difficult to find a family which has a gas stove and which does not read a newspaper.

Newspaper reading is the universal habit. People may not believe all that they read in them, but if they don't believe some of the things they read, it is usually because their experience with reference to that particular news article or advertisement has caused them to doubt, or because the message is not convincing. People are inclined to believe what they read in print.

Through the newspaper you can best open up new territory. Where is the territory which you want to invade with your service? Is it off in the mountains or a hundred miles from where there is a gas plant? No, it is on the growing outskirts of the city that you serve. It is the suburban town which has grown up alongside of the city limits. It is the poorer or more sparsely settled district probably close to the heart of the city.

Your newspapers are in close intimate touch with the gas customers. Live newspapers have advertising service departments. They give you every assistance in getting your story across. They are vitally interested in the success of your campaign in their community because they know that success will insure a continuance of your patronage.

The newspaper is the medium through which you can reach all of the people whom you want to reach and not waste a part of your expenditure on people who are not prospective customers.

The message through the newspaper is red hot off the bat. It is delivered with less loss of time between the period of preparation and distribution. Timely advertising can thus be inserted in your program, bringing a newsy, breezy touch.

Newspapers and the public utilities have one thing strikingly in common. They both touch intimately the everyday life of the people.

And in the newspaper you are carrying your arguments directly to the very men in the community to whom you are most vitally interested in getting it—the editor of the newspaper and his editorial staff. If you cannot get it to them through the columns of the newspaper you cannot get it to them by any other means of advertising.

He may not be impressed with the merits of your contention just because it

(Continued on page 702)

Striking the Keynote of Universal Acceptance of Quality Appliances

Four Manufacturers of Gas Tubing Decide to Sell Only Products That Meet A. G. A. Specifications

FOUR manufacturers of gas tubing will hereafter make and sell only tubing meeting American Gas Association requirements or bearing the official approval mark of the Testing Laboratory. This is one of the most significant steps ever taken by any group of manufacturers and is bound to react favorably on the entire industry.

HONOR ROLL

THE following manufacturers of gas tubing have decided to sell only tubing that is approved by the Appliance Testing Laboratory or meets A. G. A. Specifications:

Eastman Manufacturing Company, Manitowoc, Wisc.

Federal Tubing Company, Philadelphia, Pa.

New York Gas Tubing Company, New York, N. Y.

Tite Flex Metal Hose Company, Newark, N. J.

When the Testing Laboratory was started by the American Gas Association for the purpose of promoting the development of safe and efficient gas burning appliances, it was anticipated that within a reasonably short time only those appliances bearing the Laboratory Approval Seal or those appliances meeting A. G. A. Specifications would be offered for sale to the general public.

Originating with the Eastman Manufacturing Company and the New York Gas Tubing Company, the movement has been sanctioned by those manufacturers of gas tubing appearing on this page. They will thus give their fullest cooperation to the American Gas Association in its efforts to render complete service to the gas-using public.

It is a most important consideration that these four companies will manufacture and sell tubing that merits the Laboratory Approval Seal or meets A. G. A. requirements, as at the present time it is impossible for the Laboratory to test all makes of every manufacturer of appliances, and it is unfair to limit the sale of those appliances that have not been approved as yet when the appliances meet A. G. A. Specifications.

This most progressive stand deserves the support of the entire industry. The resulting improvement in service to the customer will do much to place the gas industry on an even higher plane than it is at the present time. Having behind it more than a century and a quarter of public service, the manufactured gas industry, acting through the American Gas Association, was the first to take a definite step to assure its customers of the safe and efficient use of appliances. Likewise, this action of the four tubing manufacturers is the first to restrict the manu facture and sale of cheap, inefficient, and dangerous gas utilization devices.

It is felt that this movement is the forerunner of similar action by all the manufacturers of appliances. Although no official action has been taken, various companies that have had ranges, space heaters, etc., approved by the Laboratory, have expressed themselves as ready to cooperate with the American Gas Association in its endeavor to defeat the inferior appliance.

Going Value

(Continued from page 684)

in connection with the study of going value of that Company, prepared by Walter R. Addicks, Senior Vice-President. This was one of several estimates of going value, presented to the Court in that case (6 Fed. 2nd, 243).

These reference data originated with the Accounting Department and were verified by the head of that Department. It included general financial and statistical statements, setting forth the volume and growth of the company's gas sales, the volume and growth in its investment in gas property, its financial history as to capital stock and obligations and dividends paid, and the cost of superseded property, and statistical tabulations of the meters in active service, sales per meter and increased use of gas, miles of mains and saturation of territory. More particularly, there were prepared and used, in substantiation of his opinion testimony as to going value, detailed studies of the actual cost of the new business secured as of the time of trial and at the various times during the fifteen-year period of Mr. Addicks' direct relationship with this work, measured in terms of the volume of gas sold and in terms of the number of new meters set, and the current direct labor and material costs of setting meters and gas appliances. From this data were derived reliable comparative estimates of the actual current unit costs of new business, etc.

In the *Laclede Gas Company* case before the Missouri Public Service Commission, during the years 1925 and 1926, comprehensive studies were submitted of the cost of developing trained personnel and the cost of routines and records. These proofs were presented in the form of items separately inventoried and appraised, and not as a part of the cost of going value.

The cost of developing personnel was set forth in a particularly impressive exhibit, in which the curve of efficiency during the development period was plotted in graphic form as to each class of employee in each department. The period of development varied according to the duties of the employees from two months to two years, before it was assumed that he had reached the state of trained employee. From this, an average efficiency for the period was determined, and the cost of training computed by applying this percentage to the salary or wages paid during the period. An interesting further refinement in this exhibit, was the inclusion of the cost of the labor turnover, in certain of the classes of labor where the turnover was in such proportions to affect the development cost.

This exhibit could hardly be classed as an accounting study. While presumably based upon the actual payroll as of a given date, or given period, the determination of the number of months required for training period, and the percentage of "full efficiency" in each of those months, are essentially matters of practical business judgment. It is by far the most direct and complete presentation which has come to the attention of your Committee, dealing with the measurement of the cost of a trained organization.

The brief outline of the accounting studies submitted in the three cases above, may give some idea of the wide scope and lack of uniformity at present of the historical data offered in the measurement of going value.

It is recommended that the Accounting Section should maintain contact with the developments in the matter of proofs and judicial decisions as to going value, and give study to the means by which it may be of the greatest service to the industry, and that a committee should be continued for that purpose.

Comfortable Homes to Have Snow on Roofs

HOUSES of the future will be known for their livable qualities by the amount of snow they have on their roofs during the winter season. This statement is made by Samuel R. Lewis, former president of the American Society of Heating and Ventilating Engineers, who predicts that insulation will revolutionize the living habits of the nation.

Gas at the Chicago Steel Exposition

The Facts of Industrial Gas Brought Before More Than 80,000 People Attending the A. S. S. T. Meeting

By D. W. CHAPMAN
The Peoples Gas Light & Coke Company, Chicago, Ill.

THE Society of Automotive Engineers was informally organized in New York City, January, 1904, during the New York automobile show, as a purely automotive engineering society. Prior to the year 1910, it became evident that it was necessary to form a society whose interests were focused on all phases of the steel industry rather than on the automotive end alone and as a result of this requirement, the American Society for Steel Treating was formed.

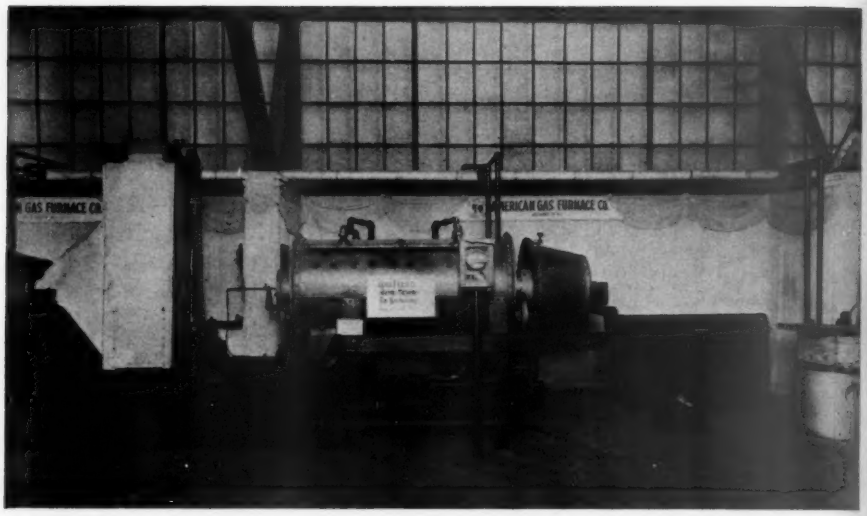
At the time of its first annual convention in 1919, the membership of the new society numbered approximately 250. The best evidence of the value of this society and its accomplishment is the fact that the membership has grown until in 1926 it now numbers 4,000, consisting of 30 chapters covering every principal manufacturing center throughout the country. No comparable expansion has ever been accomplished in any similar organization.

The society is made up of metallurgists, chemists, sales engineers, research engineers and steel treaters connected with all classes of industry who use steel in their manufacturing processes; because of the character of its membership, it is intensely interested in problems dealing with effective and economical use of fuels.

Since its inception in 1919, the society has had each year, as a feature of its annual convention, an exhibition of steel products, furnace equipment, precision instruments and practically all miscellaneous equipment used by the industry. At the first of these expositions, held in the 7th Regiment Armory in Chicago in 1919, there were 65 exhibitors.

During the seven years succeeding

Exhibit by metallurgical laboratory. The equipment is practically a duplicate of laboratory operated by The Peoples Gas Light and Coke Company in Chicago



This machine and the machine shown on the next page are set up with quenching tank in between. This furnace is for the continuous heating of small steel parts, which are quenched at a temperature of about 1650°

1919, conventions have been held at the following cities: Pittsburgh, Indianapolis, Detroit, Boston, Cleveland, and Chicago, with a continued increase in floor space, attendance, and number of exhibits until last year at Cleveland, the public auditorium was taxed to its limit, providing 45,000 square feet of exhibit space, the largest space the society had required in any of its previous six exhibitions. The attendance was 43,000.

The 8th Exposition held on the Municipal Pier in Chicago, September 20 to 24, 1926, occupied 85,000 square feet, nearly double that of the previous year, and there were 338 exhibitors and an estimated attendance in excess of 80,000.

In the early years, it became evident that there was a great interest manifested in fuels and furnaces by this society, its exhibitors and participators. The gas, electric and oil interests saw therein an opportunity to bring to the attention of this representative group the merits of their respective products. During the later years that these expositions have been held, the interest of electric furnace exhibitors has apparently been greatly intensified, with the result that in the 1925 exposition at Cleveland, they dominated the furnace exhibit, having 13 individual exhibitors to two of gas and one of oil. In addition to this, other exhibitors demonstrating the method of heat treatment of their various steels, used electric furnaces almost exclusively.

Because of economic conditions, it has not been possible for the few scattered gas furnace equipment manufacturers to put on a creditable display of furnaces without assistance from an outside source.

As the visitors to the expositions and the members of the society itself are the representatives of those firms to whom we must look for 75 per cent of our future industrial gas sales, it is evident that the wholehearted interest and liberal financial support of the American Gas Association should be given to this enterprise.

The fact that electric competition has reached its present status has been largely due to the increased number of electric exhibits. When it was decided that the 8th Annual exposition was to be held in Chicago, it became apparent to the man-

The parts heated in the machine shown on the opposite page are then conveyed from the quenching machine to this machine which is operated at about 650°

agement of The Peoples Gas Light & Coke Company that an extensive electric exhibit would seriously retard industrial gas sales promotion. The only means of preventing such an occurrence was through the assurance of an especially creditable display of gas equipment. As a consequence, a decision was made that The Peoples Gas Light & Coke Company would support the project.

Accordingly, a plan was formulated which provided that The Peoples Gas Light & Coke Company would subscribe for all of the space required for the gas display, would stand the expense incurred for gas used at the exposition, cartage of equipment to and from freight depots, and all miscellaneous expense relative to its connection and operation. This plan was submitted to the prominent gas furnace equipment manufacturers and the following three agreed to exhibit under these conditions:

American Gas Furnace Company
Eclipse Fuel Engineering Company
Holcroft & Company

The combined exhibit occupied 30 adjacent booths, comprising 6000 square feet of space. It consisted of 23 furnaces having a total sales value in excess of $75,000, all in actual operation. Among the gas exhibits were furnaces that were equal in every respect to the most modern electric furnace construction.

The three furnace companies are very enthusiastic about the results obtained. They report that nine of the 23 furnaces exhibited are to be delivered direct to customers. In addition to this, prospects and leads insure an additional return which will more than equal the expense incurred by the individual exhibitors.

Final figures are not yet available to definitely fix the cost of the undertaking, but it is estimated that it totaled approximately $40,000.

It is apparent to all who have had any contact with the situation that the impetus given to displays of heat treating equipment at the last convention will result in a more vigorous campaign on the part of those interested in the sale of electric

High speed steel furnace, rivet heater, tank water heater and burner display are shown at the left above. At the right above is rotary hearth furnace. In the center below are shown two oven furnaces and a forge.

furnaces at the next Exposition. If the gas industry and the gas furnace manufacturers are to maintain their position in the sunlight, steps must be taken immediately to insure an adequate display at future conventions of this type.

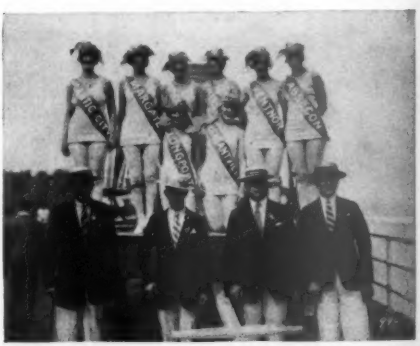
Finance and Public Relations

(Continued from page 658)

repair telephones so that communication might be re-established between a devastated city and a sympathetic nation? At such a time everyday work becomes glorified. That is the ideal which all public utility companies should strive to inspire in all their officials and employees for everyday routine work. When such an ideal is attained, public utility companies will have established correct public relations, and they will experience no difficulty in securing financial support for their requirements.

When some pessimist bewails the tendency of the present times, I like to think of the higher standards of honor and integrity that are found in the general business life of today. Men of large responsibilities realize that they must keep themselves fit. They desire to have the good opinions of their fellow men. They like to make a good financial showing, but they prefer even more to have their institution well regarded.

Willingly they dedicate part of their time to outside organizations designed for the betterment of community life. In our complex civilization, we realize how helpless we are as individuals, and how dependent we are upon the efforts of the thousands with whom we dwell. As we look to the future with its bright promise of golden opportunity, let us be glad that in this country there is room for all and that honest toil is the noblest service.



Float entered in the Atlantic City pageant by the Atlantic City Gas Company

Commercial Aspects of the Laboratory

By R. W. GALLAGHER
Chairman, Laboratory Managing Committee

THE commercial possibilities of offering to the public appliances of all types which have met our requirements of safety, efficiency and durability, approved by the nationally authoritative bodies are just beginning to be fully realized by the manufacturers and gas companies.

Manufacturers should not regard the test fee simply as a charge to be paid and necessary to find out whether their appliance meets requirements or fails, but rather as a development cost in the betterment of their appliances, and gas service.

If we consider only the amount of talent of the industry and of the Bureau of Standards, Bureau of Mines, and the U. S. Public Health Service now participating in all of our committee and research work, the cost of the test viewed as a development charge is very, very low.

Gas companies can easily capitalize on the Laboratory Seal as a symbol of quality appliances corresponding to the word "Sterling" on silver. The satisfaction rendered by a gas appliance is the customer's index for determining the desirability of our service. If his appliance operates satisfactorily he will probably be pleased with the use of gas, and extend its use; if not, no amount of advertising or comprehensive sales stimulation campaign will ever win his confidence, materially increase our appliance or gas sales, and close the door to our competitors.

The increasing amount of interest now being displayed in the Laboratory is due to a general acceptance of the fact that it is a public necessity, and as such will eventually prove a great factor in influencing appliance and domestic gas sales. Wide awake gas men will be quick to seize upon a commercial advantage of this kind possessing such a public appeal. Truly the Laboratory's work presents a wonderful opportunity for us to popularize quality gas appliances and their place in the modern home.

The gas industry is preparing to capitalize this undertaking in a large way. Your own Section has inaugurated a National Domestic Sales Stimulation Campaign for which you are entitled to a great deal of credit. You have prepared to feature approved appliances in the Blue Star Home. To fit in with your national plan a blue star with appropriate wording has been selected as the Laboratory's Approval Seal. By this plan the Laboratory Managing Committee hoped to effect the transition from the seal adopted by your Section to the Laboratory's mark of approval without confusion. Even at this early date, we believe that the Laboratory has progressed far enough in its work for the Commercial Section to adopt its seal and devote their energies toward bringing about proper public appreciation of its importance.

One of the most valuable things that the Laboratory will accomplish is the increasing part it is sure to play in raising the standard of appliances now on the market. Even at this early date marked improvement is evident in the quality of many of the different types of tubing, ranges and space heaters now offered the public. These improvements have not been effected easily or at a low cost. In

Presented before the Commercial Section, American Gas Association Convention, Million Dollar Pier, Atlantic City, N. J., October 12, 1926.

LIST OF APPROVED TYPES OF FLEXIBLE GAS TUBING AS OF OCTOBER 1, 1926.

3/8" Gaspruf Stove Tubing with Eureka Ferrules, Atlantic Tubing Company, 1756 Cranston St., Providence, R. I.

5/16" "W" Gas Tubing with Eureka Ferrules, Atlantic Tubing Company, 1756 Cranston St., Providence, R. I.

5/16" Gaspruf Stove Tubing with Eureka Ferrules, Atlantic Tubing Company, 1756 Cranston St., Providence, R. I.

5/16" Kantleke Flexible Tubing with Aluminum Ferrules crimped on, Chicago Tubing & Braiding Co., 216 N. Clinton St., Chicago, Ill.

5/16" Evertite Flexible Gas Tubing with Aluminum Ferrules crimped on, Eastman Mfg. Company, Manitowoc, Wis.

5/16" Excello Flexible Gas Tubing with Aluminum Ferrules crimped on, Excello Mfg. Co., Inc., 228 Hartford Ave., Providence, R. I.

5/16" Indestructo Flexible Gas Tubing with Aluminum Ferrules crimped on, Federal Tubing Co., 117 N. Third St., Philadelphia, Pa.

5/16" No. 323 Sta-tite Gas Tubing with Shrader Ferrules, New York Gas Tubing Co., 806 Greenwich St., New York

5/16" No. 324 Sta-tite Gas Tubing with Shrader Ferrules, New York Gas Tubing Co., 806 Greenwich St., New York

5/16" No. 325 Sta-tite Gas Tubing with Shrader Ferrules, New York Gas Tubing Co., 806 Greenwich St., New York

5/16" Penflex Metal Hose with Aluminum Ferrules crimped on, Penn. Flexible Metallic Tubing Co., 72d Street & Powers Lane, Philadelphia, Pa.

5/32" Titeflex Flexible Gas Tubing with Shrader Ferrules, Titeflex Metal Hose Co., 297 Badger Ave., Newark, N. J.

5/16" Titeflex Flexible Gas Tubing with Shrader Ferrules, Titeflex Metal Hose Co., 29 Badger Ave., Newark, N. J.

1/4" Titeflex Tubing with Shrader Ferrules, Titeflex Metal Hose Co., 297 Badger Ave., Newark, N. J.

many instances it has been necessary for manufacturers to reconstruct various sections of their appliances from one to five times before securing the Laboratory's approval. These efforts are not only commendable but deserve our most hearty and conscientious support. In fact, the American people by the enactment of gas ordinances, and through their various state and governmental regulatory bodies will demand this support, and their stamp of approval will not only add to the prosperity of our business but make our efforts really worth while. Not a single manufacturer whose appliances have been tested so far has failed to make changes necessary for their approval. This in itself gives testimony of the fairness of the approval requirements, the sincere support of the majority of the manufacturers, and an absolute assurance of a marked improvement in our standards of service.

When the Directors of our Association decided definitely to establish the Laboratory, they had in mind first the elimination of hazardous types of appliances at the earliest possible moment; and the identification of appliances of all types that are highly efficient and durably constructed so that they would insure this safety and efficiency over a long period of years. The selection of the latter type will be the Laboratory's first work and in it I am pleased to say it will not only be backed by various agencies of the government but by that strongest of all influences—public sentiment. Manufacturers in the near future will find little market for appliances of questionable operation and cheap construction.

The executives of our Association are sparing no expense or effort to make the Laboratory a distinct success and have established it on a permanent basis. Up to the present time over $80,000 has been expended in salaries, equipment and new Laboratory expansions, of which about $20,000 may be charged to research work, required during the preparation of approval standards. It is also very gratifying to report that our Executive Board has placed its definite stamp of approval on the Laboratory's first year's work by approving a recommendation of the Special Committee on Association Financing for an additional underwriting of $50,000 for our next year's work. Therefore, ample testing facilities and finances to carry forward next year's program are definitely assured. Further, we have a

List of Approved Space Heaters as of October 1st, 1926

Model No.	*Trade Name*	*Manufacturer*
515	Golden Glow	American Stove Co., Reliable Stove Co. Div.
525	Golden Glow	American Stove Co., Reliable Stove Co. Div.
4 Col. 12 Sec. 38" Unvented	Clow Gas Steam Radiator	Clow, James B. & Sons
4 Col. 10 Sec. 26" Unvented	Clow Gas Steam Radiator	Clow, James B. & Sons
4 Col. 8 Sec. 22" Unvented	Clow Gas Steam Radiator	Clow, James B. & Sons
3 Col. 12 Sec. 38" Unvented	Clow Gas Steam Radiator	Clow, James B. & Sons
3 Col. 10 Sec. 26" Unvented	Clow Gas Steam Radiator	Clow, James B. & Sons
4 Col. 11 Sec. 38" Vented	Clow Gas Steam Radiator	Clow, James B. & Sons
4 Col. 9 Sec. 26" Vented	Clow Gas Steam Radiator	Clow, James B. & Sons
20	Radiantfire	General Gas Light Co.
30	Radiantfire	General Gas Light Co.
710	Reznor	Reznor Mfg. Co.
5X	Reznor	Reznor Mfg. Co.
31G	Welsbach	Welsbach Co.

competent testing staff, totaling 20 employees in all.

The days when an industry could remain in comparative isolation and yet retain its business are over. We must step forth and take the place that rightfully belongs to us as a great agency of public service, supplying a commodity that is essential to the health, comfort and well-being of over 52,000,000 American people. The first step is to place our house in order and to this end the leaders of the industry founded the Testing Laboratory, which is making such notable progress in its work. We are now able to offer our customers approved types of gas ranges, space heaters, and tubing, and it will be practical at an early date to supply them with certified types of water heaters and house heating appliances.

A special Committee of our Association has now under consideration a plan of national advertising for the gas business. N. T. Sellman, engineer of utilization of the Consolidated Gas Company of New York, and a member of the Laboratory Managing Committee is one of the representatives of the Industrial Gas Section on the Advertising Committee. In this way we hope to secure wide publicity for the results of the Laboratory and educate the public to the fact that in purchasing gas appliances they should first look for the approval marking seal. These efforts should not only benefit the manufacturer of better appliances, but also go a long way toward relieving some of the service and maintenance responsibilities of the gas companies. Because the use of approved appliances will mean better satisfied customers, in the end, it will mean greater sales of city gas.

We hope as time goes on, the manufacturers and our testing organization will be brought into closer contact and that they will recognize fully the purpose for which it was established. So far, I have emphasized largely the part that the Laboratory is to play in raising the standards of performance and construction of gas appliances, but it should play an equal if not greater part, in influencing retail gas appliance sales. Gas companies and appliance dealers who are looking out for their own interests as well as those of their customers will undoubtedly insist on being furnished with approved types. Gas companies must do this for two reasons: First, because safe and efficient appliances are demanded by the public, and second, because they know that the best appliances mean more satisfied customers and greater use of gas. Many dealers as well as a large share of the public are still unfamiliar with the gas industry's means of solving its appliance problems. Still further in some localities there are dealers who have no particular concern for their customers' interests. This type is content to sell unsatisfactory appliances, collect their profits and leave the local gas company to correct resulting conditions. The Laboratory's efforts should greatly relieve this situation. Gas companies and the manufacturers who build approved appliances must educate the dealers to sell better appliances, then go still further, and educate the public to

demand them. When dealers become aware of the merits of quality appliances they will be quick to recognize their merchandizing advantages.

There are several problems now facing the Laboratory Managing Committee that are causing it considerable concern. One of them is the apparent intention of certain manufacturers to construct two grades of appliances—one which they propose to build without regard to nationally recognized standards and merchandise on purely a price basis. This is a serious problem and one that has a very important bearing on the future success of the Laboratory; but we do not regard it with the significance that we do the action of gas companies who still insist on merchandising unapproved appliances. Several definite instances of this kind have come to our attention within the last few months. These companies may attempt to excuse themselves by citing the fact that the Laboratory's tests and approval are not yet complete for all types of appliances. However, the instances I refer to relate to gas ranges of which we now have about fifty different approved makes covering in the neighborhood of 1,400 models, surely a sufficiently comprehensive list on which to base the future merchandising policies of any company.

Gentlemen, we have come to the turn in the road. Does our desire to improve the quality and safety of gas service exceed the necessity of continuing friendly relations with some manufacturer, or of increasing slightly the profits of our sales department? The American public through its various governmental bodies has demanded that we properly safeguard their interests and the leaders of our industry are determined that we shall do so. In fact this has always been our intention even during the earliest history of our business, to serve the public to the best of our ability. The Laboratory was established only after the most careful thought. The majority of our manufacturers have made or signified their intention of making such expenditures as are necessary to bring all of their equipment up to standard. The greater part of the gas companies have contributed most liberally to the Laboratory's financial support. Further, our leaders have established it as a permanent institution and intend to see that it becomes one of the greatest factors in improving our public service that was ever undertaken by the gas industry. There can be no compromise on this matter. The Laboratory must be backed up 100 per cent.

With approved appliances and national advertising featuring a mark of quality, the commercial man is now prepared to go before the public with a feeling of confidence that he is offering his customer appliances that represent the maximum from the standpoint of durability, convenience, and comfort and are assets to that most cherished of all institutions —the modern home.

REAL PUBLIC SERVICE

Nothing proves more conclusively the gas industry's desire to excel in the field of public service than the Laboratory's foundation. Executives, most of them highly trained in the utilization end of our business, are giving most generously of their time in guiding its activities. Member manufacturers, as our testing program proceeds, are bringing their appliances up to standard. A large share of the gas companies have contributed most generously to the Laboratory's financial support. A large list of approved appliances has been published and is now in your hands. The commercial man has a wonderful opportunity ahead of him to prove of real service to the gas industry, by filling in the valleys of our annual load curves by promoting the use of tested and certified domestic appliances during the summer months. Whether this national testing program is to rank as one of the outstanding accomplishments of the gas industry and prove a means of elevating the gas business to a higher plane of usefulness and added prosperity depends on you gentlemen—*its future rests largely in your hands.*

TECHNICAL SECTION
WALTER C. BECKJORD, Chairman HARRY E. BATES, Vice-Chairman
H. W. HARTMAN, Secretary

Some Experiences in the Operation of Waterless Gas Holders

By J. J. O'KEEFFE
General Superintendent of Manufacture, The Public Service Electric & Gas Co., Newark, N. J.

IN September, 1925, a group of men stood in a large enclosure in Harrison, N. J., where the new gas works of Public Service Electric & Gas Company was in process of construction. Their eyes were riveted on a net work of steel shapes visible over the top of a huge metal cylinder. To one side of them a battery of air blowers roared, and everywhere could be heard the rat-tat-tat-tat of the pneumatic hammers.

An Addition to New York's Skyline—the New Waterless Holder of the Consolidated Gas Company.

So slowly as almost to be imperceptible this huge mass of steel started to rise along the columns.

A half hour later the 1500 tons of steel that constitute the roof and piston of the largest "waterless" gas holder that had ever been projected had been raised three feet and workmen were busy pinning the structure to the columns where it was to hang suspended until progress in the construction of the containing shell called for another upward movement.

That was one of the main preliminary construction features incident to the erection of the 15,000,000 cu.ft. waterless gas holder at Harrison.

Presented at the Technical Session, A. G. A. Convention, Oct. 13, 1926.

Previous to this Public Service Electric and Gas Company had erected at Somerville, N. J., the first of its waterless holders—a 500,000 cu.ft. holder. This was actually the third of its kind erected in the United States. At the present time the company has in operation three of these holders, and a fourth will go into service within a week or so.

The determining factors in the selection of this type of holder over the older type of tank holder were, primarily, economy of ground space, lower cost of foundation and holder, the elimination of heating and the removal of the snow hazard.

The next two of 1,000,000 cubic feet each which the Public Service Electric & Gas Co. has built are practically duplicates and are of the so-called heavy type holders, being designed to give a pressure of 20" water column throughout their entire capacity. These are both outlying holders and were designed to reduce the necessity for boosting and to reduce the peak load on our transmission main system. In these remote locations the absence of snow and heating problems were particularly advantageous.

Among the other advantages of this

type of holder are the diminished danger of corrosion, diminished cost of maintenance, especially as to painting, and the easy access to the moving parts for inspection and repair. Its action as an efficient air condenser is also of marked advantage when it is used as a works holder. The greater portion of the condensable vapors are thrown down and retained in the plant rather than being delivered into the distributing system where it must be collected and transported at considerable expense.

One of these holders—the 500,000 cubic foot at Somerville—went through the entire winter of 1925 and 1926 without any heating whatever and with only two occurrences which gave us any concern.

TAR

With the arrival of cold weather during the latter part of 1925 our observations showed that there was a decided stiffening of the tar in the seal. Investigation proved that this was due primarily to the absorption of the lighter oils from the coal tar with which the holder was originally sealed. This condition was readily explained by the fact that the gas delivered into this holder was exceptionally dry, having passed through at least two compressions to 50 pounds and transmitted through approximately 90 miles of mains.

Immediate steps were taken to correct this condition by the addition of sufficient water gas tar to lower the viscosity of the sealing medium to a point where it would flow more freely past the piston's rubbing bar. This completed, no further difficulty from this source was experienced.

The other occurrence was due to moisture. During a storm rain was blown into the holder through the vents in the eaves of the holder. Some of this entered the cup and formed a thin film of water on top of the tar which froze to the sides of the holder when the piston was in a stationary position, a frequent occurrence in off-peak hours, forming a ridge or bead of ice over which the rubbing bar of the piston would have to pass in the event of the piston's rise with the consequent risk of losing seal. This ice bead was scraped off together with the ice film on the cup.

Careful inspection and immediate removal of water after subsequent storms prevented a recurrence of this trouble.

THE HARRISON HOLDER

The Harrison holder went into service about the 1st of February, 1926, although the tar had been placed in the sealing system during December and the holder had been in operation under air during the intervening period. Prior to its going into service the holder builders had experienced some difficulties from freezing on other smaller holders which had been completed during the erection of this larger one. Considerable information had been obtained on the subject, and from the design of the skimming system it is evident that this had not been anticipated by the builders, their experience having been wholly that of Continental Europe where practically all the storage was coal gas from which the condensation was almost nil.

Taking advantage of these experiences we were able to keep the moisture content to a safe minimum by the removal daily of some 500 to 700 gallons of tar and water from the tar dam, replacing this with an equal amount of dry tar. This was removed from over the entire tar dam, approximately 800 lineal feet, through the single skimmer connection provided. This probably accounts for the large quantity of material removed, as effective skimming cannot be accomplished over such a distance where no gradient exists.

The small amount of water found floating on the surface of the tar cup was removed through skimmer pipes and passed down into the interior of the holder. No other troubles were experienced, which indicates that with the elimination of moisture from the sealing medi-

um the greatest cause of trouble in this type of holder is removed.

The holder builders on observing the difficulties encountered in the operation of their holders immediately set to work to design and install apparatus to prevent a recurrence.

In the case of the leaking vents they installed baffles on the existing holders to prevent the rain and snow from entering the interior of the holder and changed their designs for the holders under erection to provide for this and, furthermore, to give more and better ventilation.

In the case of the removal of the condensate, they have designed and installed a separating system which consists substantially of:

1. An increased depth in the tar dam to provide more time for separation of tar, water and oils within the holder.
2. Additional skimmers—7 in the case of the Harrison holder—to more effectively remove the condensate from the surface of the tar dam.
3. Automatic timing device to provide frequent and short skimming periods.
4. Heating elements, to ensure that the moisture in the tar dam is fluid so that it may readily flow to the skimmer and be removed.
5. A separating tank in which the tar and condensate can separate, the condensate being removed and the tar returned to the holder. The design of this tank is such that in the event of the disarrangement of the automatic pumping mechanism it is practically impossible to lose any of the sealing medium from the system.

This system has not been in operation at Harrison for a sufficient length of time at this writing to allow the accumulation of reliable data, but the holder builders have kindly supplied data from another holder operating under practically the same conditions. These data show that a sealing tar, which had become heavily contaminated with the condensates thrown out of the gas, when treated in the separating system rapidly lost its water and oils and was in condition to return to the sealing system.

The data were collected during September and early October at temperatures normal to that season, but with provisions made for controlling the temperature of the tar in the dam and in the settling tank it is fair to assume that this separation can be maintained regardless of atmospheric conditions.

Our difficulties with the holders in operation have been so few and of such a minor character that, considering the success of the steps taken to prevent the accumulation of condensate, we do not anticipate any serious trouble during the coming winter.

Records taken daily on all the holders in our service have failed to show even a tendency of the piston to tilt. No escape of gas into the space above the piston has been recorded. The mechanical performance has been all that could be expected. No indications of sticking or undue stresses have been observed.

Our experience teaches us that continuous and competent inspection is necessary, and that close watch of the sealing medium must be kept to prevent any chance of its carrying excess moisture or otherwise becoming unsatisfactory.

Immediate replacement of damaged glass and care in keeping doors and ventilators closed is very necessary.

Rigid inspection and maintenance of electrical equipment is required, both from the standpoint of insulation and operating condition, and a man trained in the handling of electrical apparatus should at least supervise this. Neglect of this item will probably cause more grief than any other one thing.

We think it well to have dual electric feeders from the source of supply to the holder with each feeder supplying alternate pumps. In large and important holders this is essential. Each feeder should be of sufficient capacity to carry the total load.

If the holder station is apt to have electrical interruptions extending over lengthy periods and a steam driven generator is not available, a standby gas or gasoline engine driven generator set is recommended.

Assuming that there is supervision commensurate with the capital investment represented, we consider this type of

holder as designed and built in this country to be an advance in the art of holder building and free from the defects causing the Posen accident. The regrettable accident to this holder has been proven conclusively to have been due to poor design and worse construction, brought about largely by war conditions existing at the time and furthered by incompetent handling.

The very fact that twenty-eight holders, representing a storage capacity of 177,000,000 cubic feet and a capital investment of over $12,500,000, have been erected or contracted for in this country since 1924, twenty million of which was contracted for since the Posen explosion, proves conclusively that the design and construction is fundamentally sound or else the American Gas Engineer, admittedly a most conservative gentleman, stands convicted of a great error of judgment.

The experience gained during nearly twenty years of service in the gas industry teaches me that the collective judgment of the majority of our most prominent engineers cannot be other than sound in principle.

In closing it may be interesting to note that since the Posen accident two holders of this type have been contracted for in England, from whose technical press has come the sharpest criticism.

When man changed his means of transportation from the ox cart to the flivver he immediately got into trouble—with the traffic cop. But who wants to go back to the ox cart?

"The Gas Ditch Beautiful"

GAS companies meet with some unusual experiences along the lines of gas distribution, particularly where it has been necessary to open streets and roads for the purpose of laying the mains.

This practice, though necessary, often creates temporary inconvenience which is usually reflected in the comments of the public generally.

Knowing this, the Counties Gas and Electric Company endeavored to occasion as little annoyance as possible in the laying of mains and their efforts have, at last, been recognized.

They found that gas ditches as they dug them instead of being unsightly excavations, actually provide added attractions to the natural scenic beauty of the territory, as is evidenced by the following article which appeared in the *Norristown Times Herald* on August 11:

"Gliding over the hills from Oreland to Conshohocken the new 12-inch gas main which the Counties Gas and Electric Company started to lay on June 1, has reached Spring Mill, the many scarlet lanterns swinging above the yawning ditch at night giving it the appearance of a ruby jeweled snake. Three hundred men are working to complete this new line which is 20 miles in length. It is expected connections between the large Philadelphia Suburban Gas and Electric plant at Oreland and Conshohocken will be made within a month. Yesterday the caravan of workmen and tools reached the McKeown property in Spring Mill, and will push on steadily toward this borough."

What the Public Knows About Gas

(Continued from page 688)

is presented in the advertising columns of his newspaper. He is discerning. And you cannot buy his support. But if your message has the ring of sincerity; if you are insistent and keep at it, you are going to win his attention and make him familiar with your business.

Now, have we anyting worth while to tell to the public? Is it going to do us any good to tell it to them? I believe that it is. Why, if by winning their confidence in the soundness of our industry we could induce the public to accept one-fourth of one per cent less for the money that they loan us, we would save enough to finance ten advertising campaigns of twice the magnitude of the one, I understand, is contemplated.

By patience and perseverance, we could change the whole attitude of mind of the public from one of at least latent antagonism, which is receptive to the attacks and inuendoes of the shrewd agitator, to one of calm dispassionate interrogation.

Perhaps you and I will not live to see this ideal situation, but we can hasten its approximation.

Associations Affiliated with A. G. A.

K. R. Boyes, Secretary, Relations with Affiliated Associations

Canadian Gas Association
Date of Affiliation—Mar. 25, 1919.
Pres.—J. J. Armstrong, Consumers Gas Co., Toronto, Ont.
Sec.-Tr.—G. W. Allen, 7 Astley Avenue, Toronto.
Conv., 1927.

Empire State Gas and Electric Association
Date of Affiliation—Nov. 21, 1919.
Pres.—H. M. Brundage, Consolidated Gas Co. of New York, New York, N. Y.
Chairman Gas Section—J. E. Cooper, Utica Gas & Electric Co., Utica, N. Y.
Sec.—C. H. B. Chapin, Grand Central Terminal, New York, N. Y.
Conv., 1927.

Illinois Gas Association
Date of Affiliation—Mar. 19, 1919.
Pres.—W. A. Bertke, Illinois Power & Light Corp., East St. Louis, Ill.
Sec.-Tr.—R. V. Prather, 305 Illinois Mine Workers Bldg., Springfield, Ill.
Conv., 1927.

Indiana Gas Association
Date of Affiliation—April 24, 1919.
Pres.—E. Van Arsdel, 1100 J. F. Wild Bldg., Indianapolis, Ind.
Sec.-Tr.—E. J. Burke, Room 1314, Peoples Gas Bldg., Chicago, Ill.
Conv., 1927.

Michigan Gas Association
Date of Affiliation—Sept. 18, 1919.
Pres.—C. R. Henderson, Washtenaw Gas Co., Ann Arbor, Mich.
Sec.-Tr.—A. G. Schroeder, Grand Rapids Gas Light Co., Grand Rapids, Mich.
Conv., Grand Hotel, Mackinac Island, Mich., July 5, 6, 7, 1927.

Mid West Association
Date of Affiliation—May 21, 1919.
Pres.—Frank S. Edge, Peoples Light & Fuel Co., Grinnell, Iowa.
Sec.-Tr.—H. R. Sterrett, 551 Seventh St., Des Moines, Ia.
Conv., St. Paul, Minn., April, 1927.

Missouri Association of Public Utilities
Date of Affiliation—June 18, 1920.
Pres.—F. S. Dewey, Kansas City Power and Light Co., Kansas City, Mo.
Sec.-Tr.—F. D. Beardslee, 315 N. 12th St., St. Louis, Mo.
Conv., 1927.

New England Gas Association
Pres.—F. C. Freeman, Providence Gas Co., Providence, R. I.
Pres. Operating Div.—G. Warren Stiles, Portland Gas Light Co., Portland, Me.
Sec.-Treas. Operating Div.—F. E. Drake, Lynn Gas & Electric Co., Lynn, Mass.
Pres. Sales Div.—M. B. Webber, Marlboro-Hudson Gas Co., Boston, Mass.
Sec.-Treas. Sales Div.—J. H. Sumner, 719 Massachusetts Ave., Cambridge, Mass.
Pres. Industrial Div.— R. J. Phelan, Worcester Gas Light Co., Worcester, Mass.
Sec.-Treas. Industrial Div.—J. J. Winn, Jr., Fall River Gas Works Co., Fall River, Mass.
Conv., 1927.

New Jersey Gas Association
Date of Affiliation—April 25, 1919.
Pres.—L. N. Yetter, Atlantic City Gas Co., Atlantic City, N. J.
Sec.-Tr.—Louis Stoecker, Public Service Electric & Gas Co., Newark, N. J.
Conv., Bellevue-Stratford Hotel, Philadelphia, Pa., April 13, 1927.

Oklahoma Utilities Association
Date of Affiliation—September 16, 1925.
Pres.—J. A. Frates, Oklahoma Union Railway Co., Tulsa, Okla.
Mgr.—E. F. McKay, Oklahoma City, Okla.
Conv., 1927.

Pacific Coast Gas Association
Date of Affiliation—Sept. 18, 1919.
Pres.—W. S. Yard, Pacific Gas & Electric Co., San Francisco, Calif.
Exec. Sec.—Clifford Johnstone, 447 Sutter St., San Francisco, Calif.
Conv., 1927.

Pennsylvania Gas Association
Date of Affiliation—April 10, 1919.
Pres.—Allyn C. Taylor, Consumers Gas Co., Reading, Pa.
Sec.-Tr.—Geo. L. Cullen, Harrisburg Gas Co., Harrisburg, Pa.
Conv., Bellevue-Stratford Hotel, Philadelphia, Pa., April 13, 1927.

Southern Gas Association
Date of Affiliation—May 20, 1919.
Pres.—A. E. Merchant, New Orleans Public Service, Inc., New Orleans, La.
Sec.-Tr.—J. P. Connolly, 141 Meeting St., Charleston, S. C.
Conv., Atlanta, Ga., April 19, 20, 21, & 22, 1927.

Southwestern Public Service Association
Date of Affiliation—September 26, 1923.
Pres.—H. E. Borton, Mineral Wells Electric Co., Dallas, Texas.
Chairman Gas Section—C. K. Fletcher, Fort Worth Gas Co., Fort Worth, Texas.
Sec.—E. N. Willis, 403 Slaughter Bldg., Dallas, Texas.
Conv., 1927.

Wisconsin Utilities Association
Date of Affiliation—March 25, 1919.
Pres.—John St. John, Madison Gas & Electric Co., Madison, Wisc.
Exec.-Sec.—J. N. Cadby, 445 Washington Bldg., Madison, Wis.
Conv., 1927.

Geographic Divisions

Eastern States Gas Conference
Date of Formation—April 11, 1923.
Pres.—S. P. Curtis, American Gas Co., Philadelphia, Pa.
Sec.-Tr.—J. C. Smith, Consumers Gas Co., Reading, Pa.
Conv., Bellevue-Stratford Hotel, Philadelphia, Pa., April 14 & 15, 1927.

Employment Bureau

(Address All Communications to Key Number)

SERVICES REQUIRED

ENGINEER—Large operating company desires the services of an engineer with experience in the application of gas and the selling of industrial gas appliances. State age, past experience and salary expected. Address A. G. A.
Key No. 072.

WANTED by large gas company in middle west, salesman for industrial gas appliances. Address A. G. A.
Key No. 073.

WANTED—A fast growing Gas Syndicate operating a number of Gas Companies desires the services of an experienced gas appliance solicitor. Only trained and experienced men with good references need apply. A good opportunity for a live, wide-awake salesman. Address A. G. A.
Key No. 079.

SALESMEN—Large Public Utility Company operating in Central New York and many other states, desires to employ several securities salesmen to sell company securities. Excellent opportunity. State salary, age, experience, married or single. Address A. G. A.
Key No. 080.

INDUSTRIAL GAS SALES REPRESENTATIVE: Gas company in a Middle Atlantic State has an opening for a technical college graduate, with fundamental knowledge of application and combustion of various fuels, to sell gas for industrial uses. Must be capable of making plant surveys of heat applications. State age, education, experience and salary desired. Address A. G. A.
Key No. 085.

SALESMEN: Medium-sized Public Utility Operating Company located near New York City has opening for one gas appliance salesman, and two securities salesmen to sell gas company securities direct to consumers. State salary, age, experience, and married or single. Address A. G. A.
Key No. 086.

INDUSTRIAL GAS SALESMAN—Must have sufficient engineering experience and ability to make estimates, recommendations and demonstrations: and also must have that quality of salesmanship which can bring about the signing of contracts. Company operates in a city of approximately 200,000 inhabitants. Address A. G. A.
Key No. 088.

A NEW GAS APPLIANCE COMPANY desires to employ Gas Appliance Salesman who has had considerable experience in selling Water Heaters, boilers, etc. State age, salary expected, experience. Address A. G. A.
Key No. 089.

INDUSTRIAL GAS SALESMAN with two or more years' experience with various industrial applications to join Gas Company industrial sales force with good opportunity to develop into supervisory position. Address A. G. A.
Key No. 090.

SALESMAN—Chiefly for gas-fired steam radiators, also other gas appliances to work in New York City. One acquainted with plumbing and heating trade preferred. Salary and commission basis. Address A. G. A.
Key No. 094.

A PROGRESSIVE Gas Company in Mass. has an opening in its Industrial Gas Engineering Department for a Technical College Graduate to sell gas for industrial uses. State age, education, experience, and salary desired. A fine opportunity for the right young man. Address A. G. A.
Key No. 095.

WATER HEATER SALESMAN with experience with various installations to join Gas Company sales force with good opportunity for development. Address A. G. A.
Key No. 096.

SHOP FOREMAN—Wanted by Company operating in the Metropolitan District of New York City. 25,000 Meters. Must be thoroughly familiar with all classes of work on consumers' premises, industrial appliances, routing and transportation. Give age, experience and compensation desired. References will be considered confidential if requested. Address A. G. A.
Key No. 097.

SERVICES OFFERED

WANTED—Am open for position as appliance salesman with appliance manufacturer, experience covers over fifteen years in the sale of gas ranges, automatic water heater and heating appliances, or as manager of appliance sales department with a gas operating company, experience includes executive and technical training. Married. A1 references. Address A. G. A.
Key No. 205.

WANTED—Position as Gas Engineer or Superintendent of property serving 30,000 or more meters. Fifteen years' experience in high and low pressure distribution, coal and water gas production. Address A. G. A.
Key No. 211

EXECUTIVE—technically trained engineer, experienced in coal and water gas manufacture, high and low pressure distribution, electrical generation and distribution, purchasing, handling of securities, with sales experience, etc., desires a position of responsibility. He is at present employed, 33 years old, married and can leave on comparatively short notice. Has the best of references and will go anywhere. Has broad experience and can show increased gross and net earnings. Address A. G. A.
Key No. 215.

YOUNG MARRIED MAN—Thirty-one years old. Thoroughly experienced in every phase of selling Gas and Electric merchandise through Public Service companies by the Meter-Reader-Salesman plan of selling, desires position with Public Utility Company. Can make a real success of your merchandising department under this plan. Have also had three years' road experience selling electrical merchandise, organizing sales crews for dealers, etc. Available about September 15 or October 1st. Address A. G. A.
Key No. 216.

TECHNICAL MAN now employed as superintendent and industrial gas engineer desires new location. Thirty-six years of age. Fourteen years' experience in coal and water gas manufacture, sales and distribution. Services available upon reasonable notice to present employer. Address A. G. A.
Key No. 217.

MANAGER OF GAS PROPERTY—with twenty-five years experience in all branches of business, specialist in building up small companies, desires to make change in position. Address A. G. A.
Key No. 218.

AGGRESSIVE COMMERCIAL MANAGER—34 years of age, available October or November. Thoroughly familiar, Industrial, Commercial and Domestic Sales Promotion. Address A. G. A.
Key No. 220.

COMBUSTION SALES ENGINEER with executive ability to organize and operate an efficient industrial sales department, capable of putting over large industrial operations. Thorough knowledge of solid, liquid and gaseous fuels from a practical and theoretical standpoint, having made surveys in over one thousand industries during the past seventeen years of industrial plant engineering. Broad experience in a very extensive variety of heating operations including the design of large heating furnaces and gas burner equipment. Also contributed a great deal to the development of house-heating, able to create splendid public relations. Technical graduate. High class references. Address A. G. A.
Key No. 221.

HOME ECONOMICS UNIVERSITY GRADUATE desires a position as a Home Service Director. Has had experience in organizing and directing such a department with a Public Utility company. Address A. G. A.
Key No. 222.

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AMERICAN GAS ASSOCIATION, INC.

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ALFRED HURLBURT	Pittsburgh, Pa.
J. B. KLUMPP	Philadelphia, Pa.
R. M. LEACH	Taunton, Mass.
F. A. LEMKE	Kalamazoo, Mich.
CHARLES A. MUNROE	St. Louis, Mo.
H. C. MORRIS	Dallas, Texas
B. J. MULLANEY	Chicago, Ill.
G. W. PARKER	St. Louis, Mo.

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Vice-Chairman	EDWARD PORTER	Philadelphia, Pa.
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Vice-Chairman	E. F. GARDINER	Chicago, Ill.
Secretary	C. W. PERSON	Ass'n Headqtrs.
COMMERCIAL—Chairman	J. J. BURNS	St. Louis, Mo.
Vice-Chairman	G. M. KARSHNER	New York, N. Y.
Secretary	J. W. WEST, Jr.	Ass'n Headqtrs.
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Vice-Chairman	F. C. MACKEY	Chicago, Ill.
Secretary	C. W. BERGHORN	Ass'n Headqtrs.
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Vice-Chairman	H. L. WHITELAW	New York, N. Y.
Secretary	C. W. BERGHORN	Ass'n Headqtrs.
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ASSISTANT MANAGER	H. W. HARTMAN	Ass'n Headqtrs.
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